Improved tools for railroad **decision-making** sought in WP-GE study. . . . . p. 20

December 3, 1962

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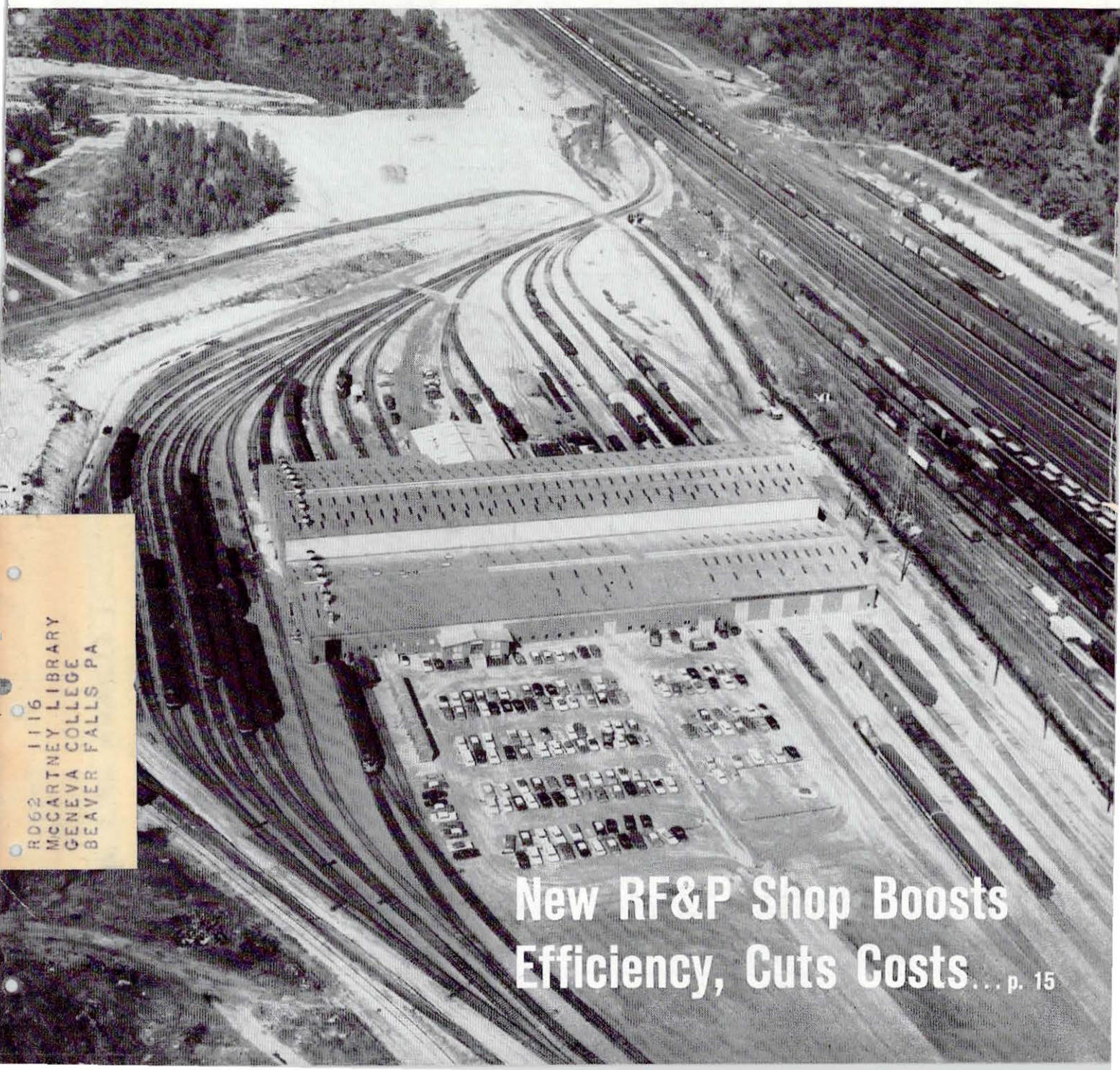
RAILWAY AGE WEEKLY



New RF&P Shop Boosts Efficiency, Cuts Costs... p. 15

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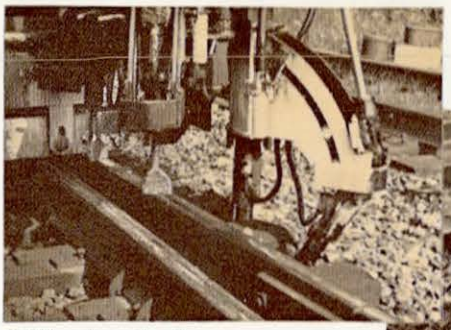
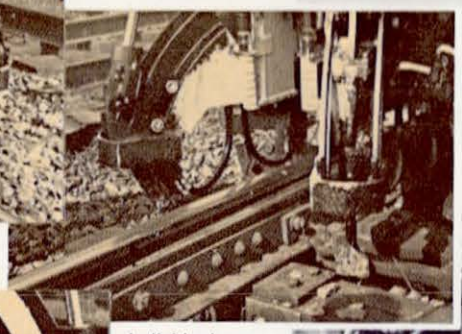
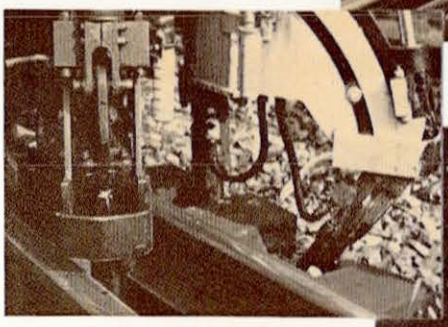
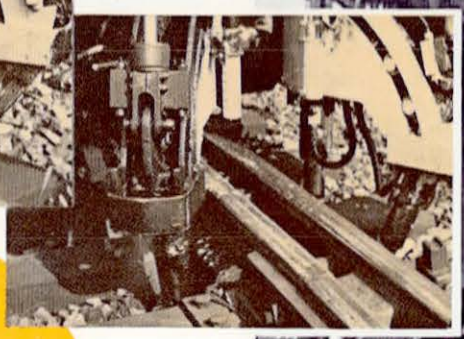


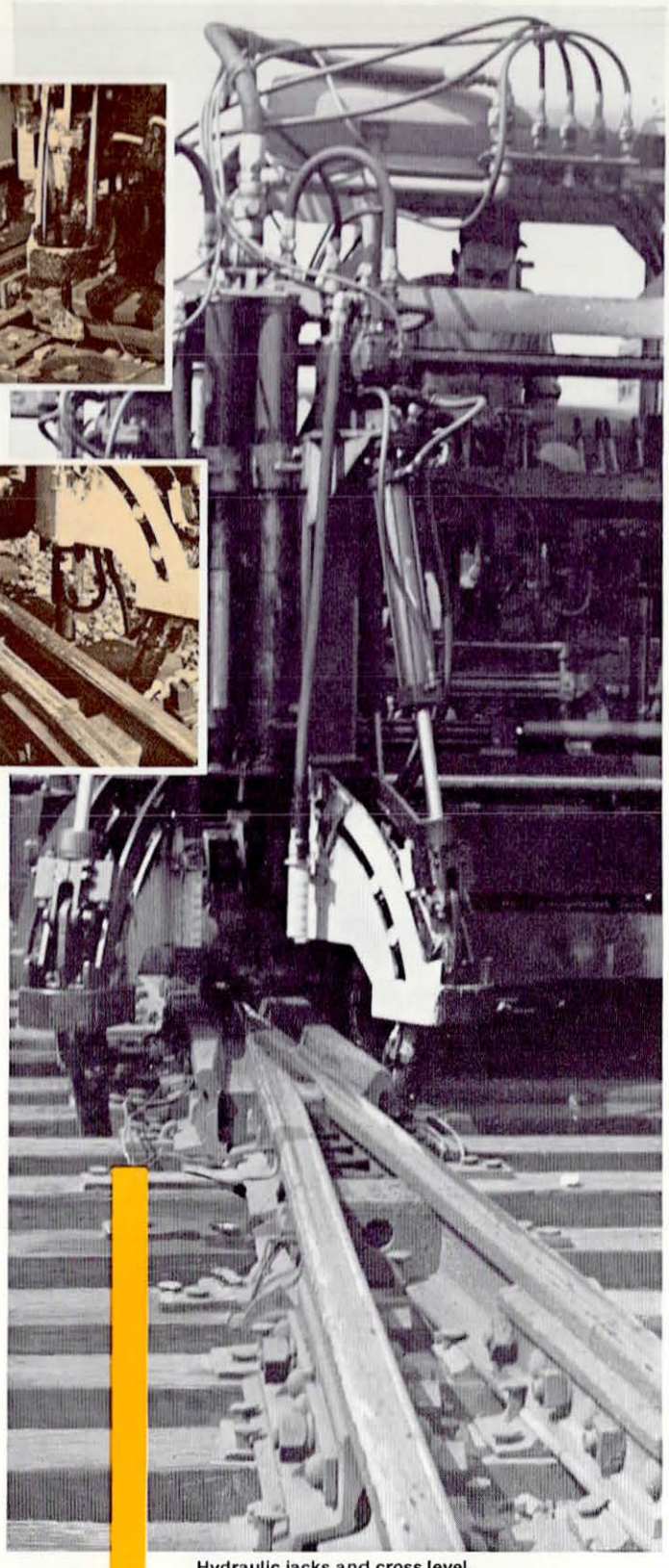
Split head construction.





Individual gun control.





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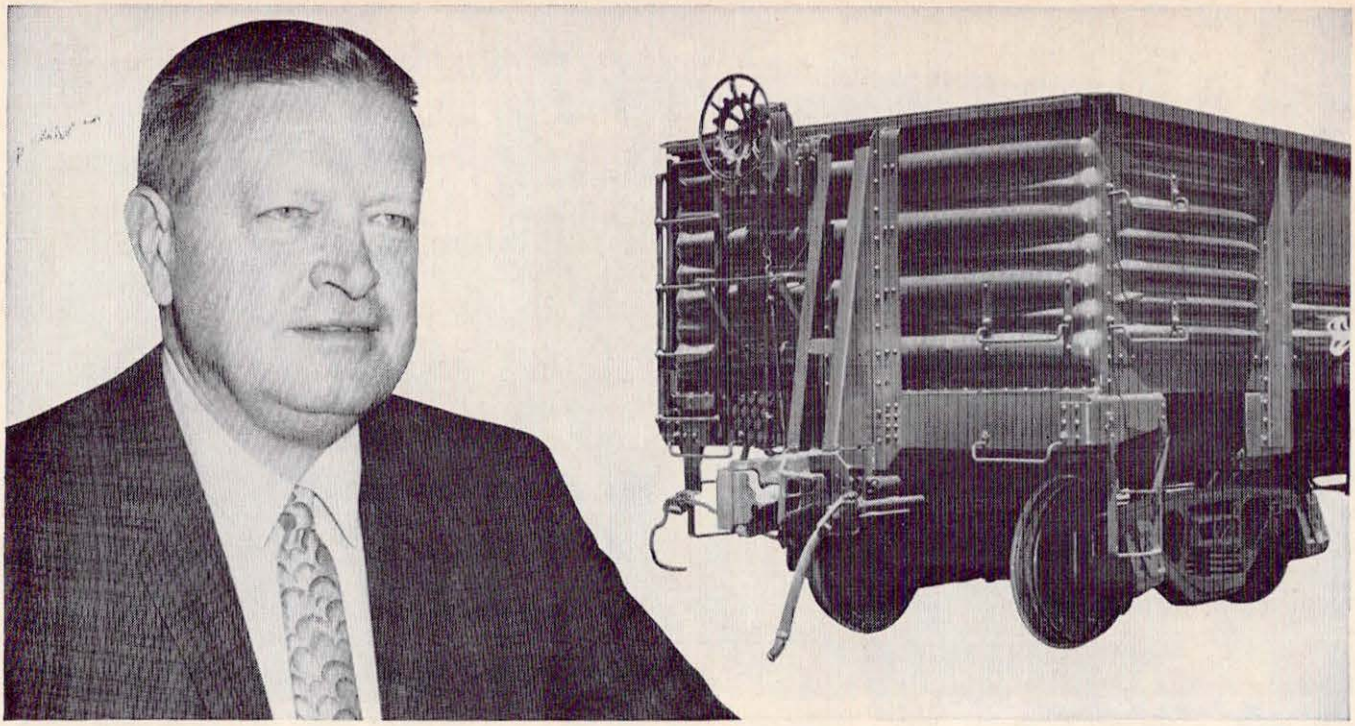

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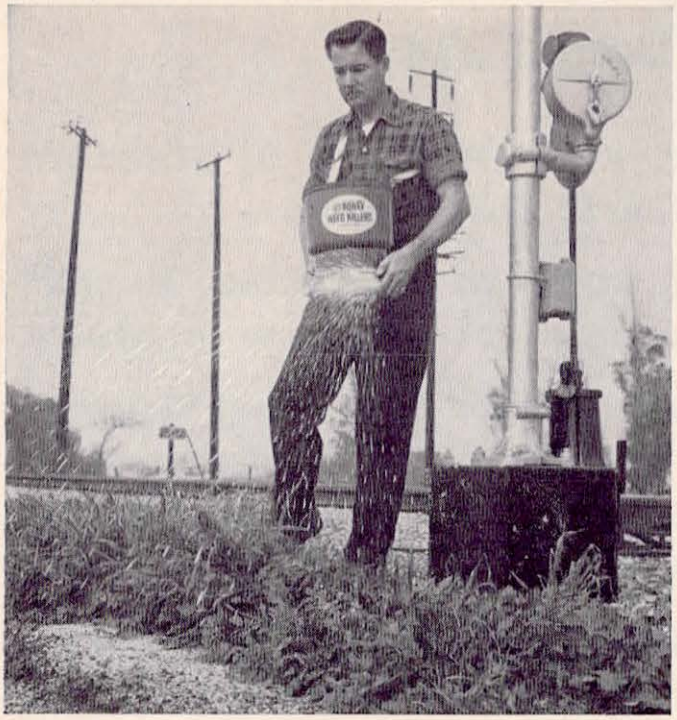

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Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.
Published weekly by the Simmons-Boardman Publishing Corporation at 440 Boston Post Road, Orange, Conn.

Second Class Postage Paid at Orange, Conn.

Departments

Dividends Declared 10
Freight Carloadings 33
New Equipment 33
New Products Report 31
People in the News 28
Railroading After Hours 21
Railway Market 33
Supply Trade 30
The Action Page 40
Watching Washington 10
You Ought to Know 38

RAILWAY AGE WEEK AT A GLANCE

December 3, 1962 • Vol. 153, No. 23

Work rules: Railroads win big round in court

An appellate court has upheld the carriers' right to put anti-featherbedding rules into effect. Unions will decide this week on their next move p.9

Pittsburgh may test new transit design

A low-cost "instant service" rapid transit system has been devised for cities of 500,000 to two million population. Pittsburgh is thinking of setting up a pilot line p.11

Kennedy bills won't be watered down

The Administration has made it clear that last week's conferences with carriers and shippers weren't aimed at reaching a compromise on controversial legislation p.12

New RF&P shop boosts efficiency

All the road's rolling-stock repairs have been consolidated in a $1.8-million shop and office building in Richmond. The consolidation is expected to reduce costs of operation p.15

WP-GE seek improved decision-making tools

The goal is to determine what information is needed from a practical operating standpoint to help railroad officers at all levels make more effective decisions p.20

DM&IR merges controls for 83 miles of CTC

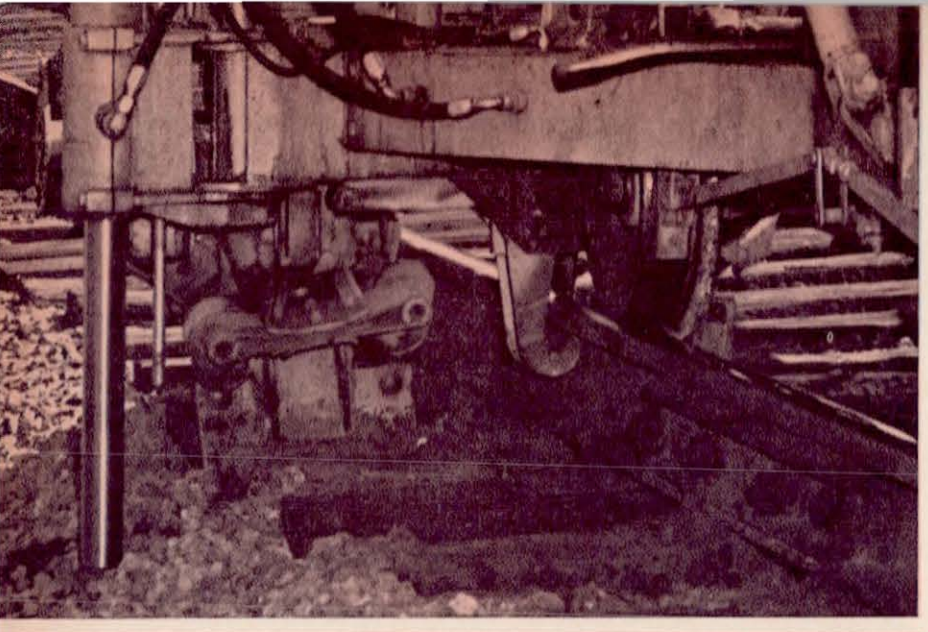
The controls have been merged into one machine, permitting the dispatcher to more efficiently control movement of trains serving important iron ore mines in northern Minnesota **p.26**

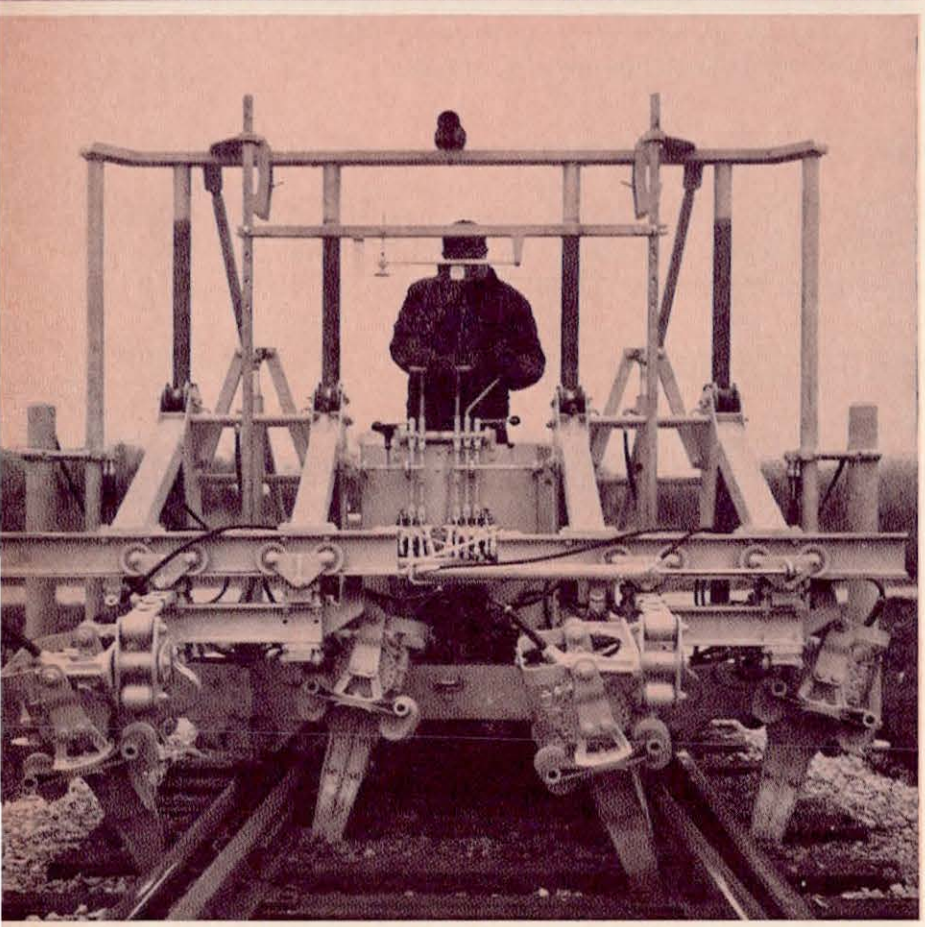
Utility coal users get caution signal

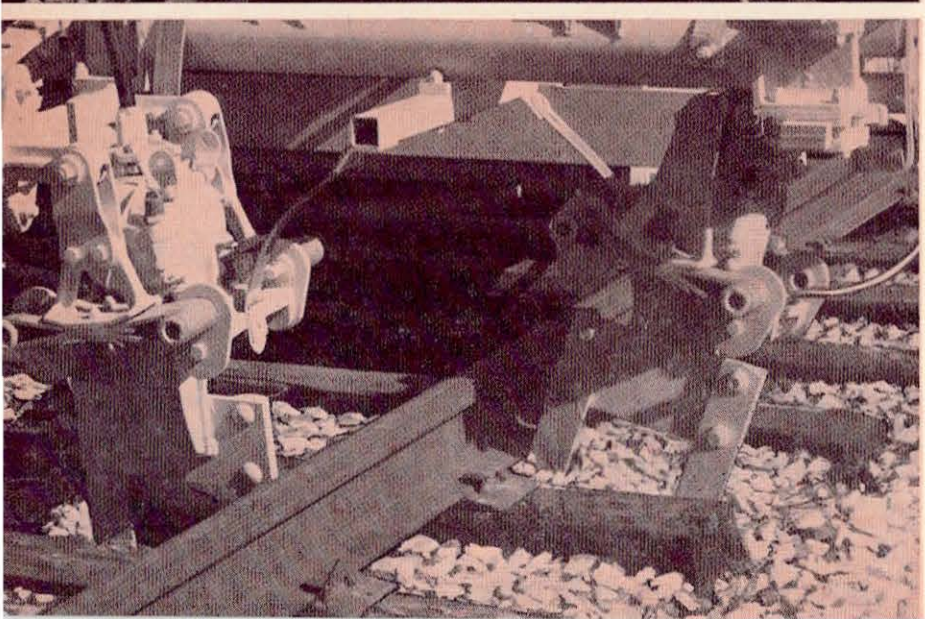
Any advantages to be gained from slurry pipelines and mine-mouth power plants could be "short term," warns N&W President S. T. Saunders p.34

RRs, unions fight 'billion-dollar ditch'

The proposed Champlain Seaway could be the "death knell" for rail service in northern New York and New England, warn management and labor spokesmen.....p.36







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RAILWAY AGE WEEK AT A GLANCE

The Action Page—Time to get cost-wise

Railroads must induce all supervisory personnel to quit seeing traffic in terms of carloads and tons—and to visualize it, instead, as units of revenue and related expense **p.40**

Short and Significant

The Pennsylvania's dividend record . . .

has been maintained with the declaration of a 25-cent dividend payable on and after Dec. 27 to holders of record on Dec. 10. The PRR has paid dividends for 115 years.

The New Haven's financial position . . .

is improving—slowly. The bankrupt carrier reports a net deficit of $10,797,194 for the first 10 months of this year, down nearly $7 million from the same period last year.

The Boston & Maine will get $2,200,000 . . .

as its share in a federal-state mass transportation experiment in Massachusetts. The B&M will reduce fares and increase the number of trains during the year-long test.

Federal outlays for transportation . . .

are estimated at $5 billion for the current fiscal year—$3.4 billion for highways, $866 million for aviation, and $622 million for water transport.

No serious car-supply problems . . .

are expected by the AAR's Car Service Division in the next few months although "requirements for high-grade and wide-door 40-ft and all 50-ft box and hoppers will be high."

Current Statistics

Operating revenues		Carloadings revenue freight	
9 mos., 1962	$7,035,376,998	47 wks., 1962	26,247,819
9 mos., 1961	6,771,076,465	47 wks., 1961	25,976,639
Operating expenses		Freight cars on order	
9 mos., 1962	5,545,479,320	Nov. 1, 1962	12,159
9 mos., 1961	5,426,373,777	Nov. 1, 1961	10,297
Taxes		Freight cars delivered	
9 mos., 1962	768,935,690	10 mos., 1962	32,451
9 mos., 1961	735,208,175	10 mos., 1961	27,093
Net railway operating income		Serviceable cars	
9 mos., 1962	430,294,601	Nov. 1, 1962	1,432,235
9 mos., 1961	316,265,358	Nov. 1, 1961	1,466,990
Net income estimated		Cars awaiting repairs	
9 mos., 1962	296,000,000	Nov. 1, 1962	131,055
9 mos., 1961	184,000,000	Nov. 1, 1961	147,043

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WORK RULES

RRs Win Big Round In Court

The operating unions were forced back another grudging step last week in their desperate fight to delay changes in work rules. But this new defeat—in the U. S. Court of Appeals—could be a turning point in the three-year-old carrier effort to end featherbedding on the railroads.

The brotherhoods may try to take advantage of a number of legal options to postpone still further the eventual day of reckoning. There's a good chance, however, that such moves would have something less than the full support of all five unions. At least two of the five weren't enthusiastic about court action in the first place—and they've grown increasingly uneasy as costs mounted and the unions met only defeat for their efforts, first in U.S. District Court and now in the Appeals Court.

Decision will probably come Dec. 3, when top officers of the BLE, BLF&E, BRT, ORC&B and SUNA will meet in Washington to ponder the options open to them and, perhaps, to reassess the strategy they've been using. A spokesman for the Trainmen indicated last week that the organizations will file for a rehearing in the Appeals Court and, if necessary, will carry the case to the Supreme Court. But among some union chiefs, the urge to quit the courts and get back to bargaining seems to be growing stronger. Their reasoning: Every defeat weakens the union position and the delay to be gained doesn't offset those losses in strength. Further, they believe, bargaining within the framework of the Presidential Railroad Commission recommendations would be safer and wiser than risking eventual defeat in the courts in the present case—which involves not the PRC proposals but the more severe carrier notices of Nov. 2, 1959.

As matters stand now, the injunction barring the carriers from making rules changes will be dissolved Dec. 13—if no further appeal is filed by the unions. Once the injunction is ended, carrier spokesmen indicate, they'll move quickly to make the desired changes.

If the organizations decide to try for additional delays, however, these are the options open to them:

- If no action is taken by either party, the carriers will be able to put work rule changes into effect Dec. 18 (20 days after Nov. 28), thus probably provoking a strike announcement and/or a union request for a Presidential Emergency Board.
- If a union motion for rehearing is filed by Dec. 13, the court's mandate will be stayed until five days after the motion is denied—or, if granted, until final disposition of the case. The railroads have 10 days after a motion for rehearing to file their reply.
- The unions have until Feb. 26 (or 90 days after Nov. 28, or after a motion for rehearing is denied) to file a petition for certiorari. The Court of Appeals or the Supreme Court can grant a stay of the mandate pending disposition of the petition for writ of certiorari; but this motion must be made before the mandate is issued and the stay is discretionary with both the Court of Appeals and the Supreme Court.

The decision from Appeals Court Judges Elmer J. Schnackenberg, Latham Castle and Luther M. Swygert was described by James R. Wolfe, chief negotiator for the carriers, as "supporting in clear and unmistakable language the right of the railroads to change antiquated work rules. Lower courts have also supported the railroad right to do this—and union actions now are simply to delay and obstruct the carriers from exercising their lawful rights. Union spokesmen are actually being quoted in newspapers as saying they will appeal in order to gain further delay. We will ask that bond be increased to at least $5,000,000—and if they are doing this to delay us from getting our legal rights, they will have to pay for their actions."

Pointing out that Secretary of Labor W. Willard Wirtz has announced that an emergency board will be created if a strike is called, Mr. Wolfe also

Strike Threat: 'Unnecessary . . . Ill-Advised'

Whatever strategy the brotherhoods now adopt in the work-rules fight, they'll be working under a sternly worded court warning against a strike. The three judges of the Appeals Court, noting that the organizations had informed the District Court that they would use a strike as a last-ditch weapon against implementation of the carrier proposals, commented: "We would like to believe that this unnecessary threat of a strike of such magnitude as to amount to a national transportation paralysis was ill-advised." The appellate judges—Elmer J. Schnackenberg, Latham Castle and Luther M. Swygert—went on to say:

"We shall remind the persons responsible that they are dealing with railroad properties which are impressed with a public interest, which is paramount to that of all the litigants in this case. Always invisibly present as a non-participating party, at the bargaining table and at every stage thereafter have been the people of the United States to whose interests that of the organizations and the carriers is subordinate."

The court had a warning for both sides: "Through their representatives in Congress, the people may resort to such governmental power as is necessary to assert their superiority to any private interest, whether corporate or otherwise. The carriers enjoy a regulated monopoly in their field. The organizations enjoy an immunity from the restrictions of anti-trust laws. These references suggest only some of the ways in which the people might respond if any party to this suit resorts to an economic force which would jeopardize the nation more than the opposing litigant in this case."

WATCHING WASHINGTON WITH WALTER TAFT

● **RAILROAD LABOR UNIONS** now have the support of the National Association of Railroad and Utilities Commissioners in their campaign for repeal of the 1958 Transportation Act's service-abandonment provisions. These are the so-called train-off provisions which are in Section 13a of the Interstate Commerce Act. Railroads have used them quite extensively to expedite the abandonment of unprofitable passenger services. With no requirement for clearance with state commissions, the section gives the ICC power to authorize abandonments of trains or ferries which operate from points in one state to points in another state. It also gives the federal Commission power to authorize abandonments of trains or ferries operating wholly within a state, after the interested state regulatory authorities have had opportunity to deal with the matter.

RESOLUTIONS adopted at NARUC's recent annual convention include one which puts the Association on record in support of legislation to repeal the section. The resolution recalled that the Association opposed enactment of the section, because it "deprived the states of adequate regulatory authority over passenger train discontinuances, a matter of local concern, while failing to give the Interstate Commerce Commission commensurate power to protect the interest of the general public."

THE NARUC ACTION has been welcomed by the railroad unions and reports of it have been featured in their publications. "Labor" called it "solid support" for the Railway Labor Executives' Association drive to excise the "iniquitous" section which "gave the railroads a virtual green light to eliminate passenger transportation."

BILLS TO REPEAL THE SECTION have been before Congress for the past three years. None of them has got beyond the committee-hearing stage. They will be reintroduced, of course, when the new Congress convenes in January.

THE ICC has not supported these repealers, but it has recommended three changes in the section. Its proposals would require the railroads to give 40 days notice (instead of 30) when announcing service abandonments; increase, from four to seven months, the period for which the Commission may suspend such notice; and put the burden of proof on railroads proposing to discontinue services.

THE RAILROADS have opposed any change in the section. They contend that the public is now fully protected. And they point out that passenger train services have been lost largely because of government activities in "encouraging, developing, subsidizing, and underwriting with public funds, competition on the highways and airways."

● **PRICES PAID BY RAILROADS** for fuel, materials and supplies have remained quite stable for several months. The AAR's latest quarterly index, for October, was the same as July's—100.2. This was down 1.7 points from the April index, and it was also fractionally below 1961's July and October indexes.

THE INDEX is based on average quarterly spot prices of the 1957-1959 period as 100. The October index was held to 100.2 by a fuel-price index of 93, October indexes of other constituent commodity groups having been above 100.

said the railroads are willing to resume negotiations whenever union leaders give assurance that they are prepared to make an agreement. "Legal technicalities," noted Mr. Wolfe, "forced the railroads to serve the present notices, but we have not lost sight of the human factors. In this respect, the railroads remain ready to settle within the framework of the report of the Presidential Railroad Commission, which was made after 13 months of intensive study."

The rules change proposals contained in the carriers' original Section 6 notices of Nov. 2, 1959, provide for immediate elimination of all firemen now employed on diesels in yard and freight service, elimination of the dual basis of pay, and removal of artificial barriers between yard and road work. The proposal also reserves to management the unrestricted right to determine consists of train crews and to establish interdivisional runs and change home terminals. The carrier proposal, as promulgated Aug. 6 of this year, contained no protective provisions for affected employees.

Implementation of the PRC recommendations would require more liberal rules and substantial protective provisions for affected employees. The commission suggested a gradual elimination of firemen, negotiation of crew consist changes, and establishment of interdivisional runs, away from home expenses, and provision for paid holidays for yard and local freight crews. Dismissal or relocation protection provisions, retraining allowances, and preferential rehiring for affected employees were also recommended by the PRC.

Dividends Declared

ALBANY & VERMONT.—$1.25, paid Nov. 15 to holders of record Nov. 1.

BESSEMER & LAKE ERIE.—$1.50, semiannnual, paid Dec. 1 to holders of record Nov. 15.

CHESAPEAKE & OHIO.—common, $1, quarterly, payable Dec. 20 to holders of record Dec. 3; 3½% preferred, 87½¢, quarterly, payable Feb. 1, 1963, to holders of record Jan. 7.

CHICAGO, ROCK ISLAND & PACIFIC.—25c, payable Dec. 31 to holders of record Dec. 14.

DELAWARE & BOUND BROOK.—50¢, quarterly, paid Nov. 20 to holders of record Nov. 13.

ERIE & PITTSBURGH.—guaranteed stock, 87½c, quarterly, payable Dec. 10 to holders of record Nov. 30.

GULF, MOBILE & OHIO.—common, 37½¢, quarterly; 50¢, extra, both payable Dec. 10 to holders of record Nov. 23.

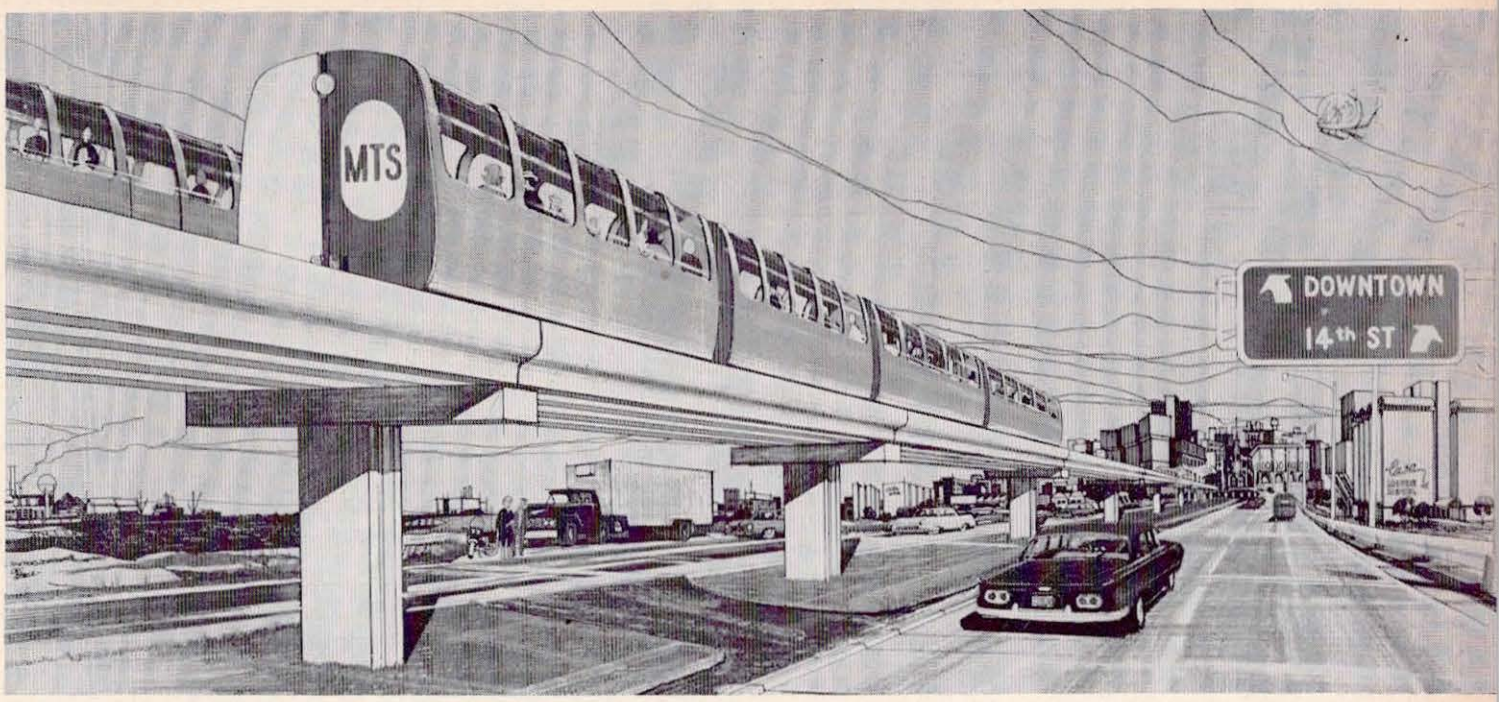
KANSAS CITY SOUTHERN.—common, $1, payable Dec. 31 to holders of record Nov. 30; 4% preferred, 50¢, quarterly, payable Jan. 2, to holders of record Nov. 30.

KANSAS, OKLAHOMA & GULF.—6% preferred A, $3, semiannual, paid Dec. 1 to holders of record Nov. 20.

PITTSBURGH, YOUNGSTOWN & ASHTABULA.—7% preferred, $1.75, quarterly, payable Dec. 3 to holders of record Nov. 20.

SOUTHERN.—common, 70¢, quarterly; 5% noncumulative, preferred, both payable Dec. 14 to holders of record Nov. 15.

WESTERN PACIFIC.—25¢, quarterly, paid Nov. 15 to holders of record Nov. 1.



WESTINGHOUSE'S TRANSIT EXPRESSWAY SYSTEM can carry 14,000 riders per hour in either direction.

Pittsburgh May Test New Transit Design

Westinghouse Electric engineers last week came up with what they hope may be the answer to the nagging transit problem plaguing most cities.

Four tiny aluminum transit cars on a scale model elevated expressway track were rolled out in New York by Westinghouse officials who described the set-up as "a new concept in rapid transit service for metropolitan areas."

Basically, the Transit Expressway would consist of rubber-tired cars operating on dual-rail concrete track at speeds up to 50 miles per hour. They would be automated and electrically powered by wires in the center of the roadbed.

Dr. Patrick Conley, Westinghouse vice president and general manager of Industrial Systems, said the company has designed the low-cost system to meet the needs of cities in the 500,000 to two million population class. He mentioned Pittsburgh, Atlanta, Miami, and Baltimore as examples of communities where population density is low and automobile usage is high, and where such a transit system would be feasible.

He said the Pittsburgh Port Authority is in the process of requesting a $10 million grant from the HHFA to build a 6.5 mile pilot line using the Westinghouse system. Total cost of the project would be $15 million.

"Low cost" was cited as one of the prime advantages of the system. Other features include:

- 24-hour "instant" service, with average waiting time not exceeding two minutes.
- Automatic train operation, with cars operating as single units or in trains of 10 cars. There would be no transit employees on the cars.
- Compact, light-weight, 20-passenger cars operating under their own propulsion.
- Reduced roadway structure costs. A light, building-block assembly of prefabricated, precast concrete parts could be built for $2-3 million per mile, compared with a cost of from $12-20 million a mile for a subway system.
- Simple station structures. The two-minute train service would eliminate the need for elaborate waiting rooms. A 200-ft platform with roof would be used.
- Automatic fare collection, which would permit use of a zone or station-to-station fare system.

Also, on the automatic side, control of train operations would be provided by a series of local controllers supervised by a central control computer. At each station, a local controller would be connected to a central control computer by a high-speed supervisory code system.

The central control computer would establish schedules, and program, supervise, and monitor the over-all system performance. Local controllers would regulate train speeds, starting and stopping of trains, door operation, and also monitor individual train performance.

Cars themselves would be 23 feet long, and would be built using high production low-cost components. Each car, slightly longer than an automobile, would weigh 8,600 pounds. The propulsion system for each car would be a d-c drive or an a-c induction motor operating through a torque converter and a differential.

Cars would be guided by four horizontal wheels riding against the curbs of the special concrete runway. A 12-ft wheelbase would permit the use of rigid axles without excessive tire wear on any curves. Dual tires on each wheel would protect against "flats" and permit use of low-cost high-production tires.

The system would be a "closed loop" operation with a two-minute fixed headway between trains, thus conventional switchyards would not be used. A control computer would operate a mechanized yard consisting of a number of power-operated transfer tables to vary the number of coaches per train.

Kennedy Bills Won't Be Watered Down

Conferences which the undersecretary of commerce for transportation, C. D. Martin, Jr., and his staff held last week with carrier and shipper groups were not called with the idea of considering proposals for changes in President Kennedy's transportation program. This was made clear by Mr. Martin, who said the meetings were "not geared to seeking a compromise or common denominator." When the program is presented to the new Congress in January, he said, it will be substantially the same as it was this year.

The conferences began Nov. 26, when a group of industrial traffic managers were on hand. The next four days were given over to meetings, in turn, with representatives of freight forwarders, water carriers, motor carriers, and railroads. Commerce Department representatives participating with Undersecretary Martin included his deputy undersecretary, Frank Barton, and two of his consultants: Dr. E. G. Plowman, vice president—traffic, United States Steel Corp., and C. H. Beard, general traffic manager, Union Carbide Corp.

While discussions at the meetings were "off-the-record," Mr. Martin and his associates held press briefings at which they indicated generally what was going on. It was at one of these briefings that Mr. Martin said there would be no substantative changes in the President's program, that the meetings were not called to talk compromise.

They were called, the undersecretary said, because he thinks it is a good idea to meet on something like an annual basis with the various transport interests in order to exchange views. It is not unlikely, however, that strong views about controversial phases of the President's program were expressed. Most controversial of the Presidential proposals are the recommendations calling for an end to minimum-rate regulation as to bulk and agricultural commodities. Commodities in bulk are now exempt from all regulation when they move by water, while the transportation of agricultural products enjoys like immunity when the movement is by truck. The railroads regard this minimum-rate phase as the heart of the President's program, all of which has their full support.

Undersecretary Martin's statement that the new Congress would get the same program that went up this year does not necessarily mean that it will be embodied in only two bills, as most of it was this year. There has been some discussion of whether a piecemeal approach might be more effective than the omnibus-bill plan.

Last week's conferences were all-day meetings. As explained by Mr. Martin, the program called for morning sessions devoted to statements by himself and his associates. Generally these statements were reports of what has been done and what is planned to implement the President's program. The afternoon sessions were devoted to comments and suggestions by representatives of the carrier and shipper groups.

Among the morning-session reports was one by Dr. Plowman on the planning and research program which is under his direction. This research program is responsive to that part of the President's transportation message which said:

"I look to the secretary of commerce to develop a comprehensive research program for the government for later consideration by the Congress. Once such a policy-oriented research program is under way, it will produce a flow of information of the kind that we must have in order to implement a comprehensive public policy on transportation."

Dr. Plowman said that each of the carrier and shipper groups was given a list of suggested research projects, and asked to give their reactions and whatever help they could. One such study, in the field of emergency transportation, will undertake to determine the potential of for-hire carriers with their present facilities and manpower, i.e., how much more traffic could they handle if it be assumed that they would have to get along in an emergency without any more employees or additional equipment.

Another group of research projects which Dr. Plowman has in mind is what he calls studies of "freight rate restructuring for the computer age." He said the ICC has "one mile of freight rates on its shelves—43 trillion separate rates." That's more than can be put on computers, Dr. Plowman continued, adding that "some form of simplification must be achieved—pressure for simplification will come with increasing use of data processing machines."

Carrier costs will also be studied. In that connection Dr. Plowman plans to bring together economists and accountants who can determine what are out-of-pocket costs, incremental costs, etc. Having made such determinations, this project contemplates a follow through to the collecting of costs and making them available.

As Dr. Plowman visualizes the results, they will be showings of "A Costs" and "B Costs" for each form of transportation. "A Costs" would be costs other than those related to "roadbed." Dr. Plowman explained that, for rail transportation, "A Costs" would be costs "above the rail," and "B Costs" would be costs from the rail down; for water transportation, the "A Costs" would be costs "from the hull of the vessel up," and "B Costs" would be costs of the waterway. Costs of highway transportation would be developed on like bases.

AAR Asks More Time In Piggyback Case

Speaking for itself and railroad parties to the ICC's piggybacking investigation, the AAR has asked the Commission for more time to prepare the principal presentations in the case.

The case is Ex Parte 230, in which the Commission is proposing to adopt a comprehensive set of rules to govern trailer-on-flat-car services (RA, Oct. 15, p. 9; Oct. 22, p. 10).

Present deadline for the filing of principal presentations is Dec. 10. The AAR asks that it be set back to Jan. 24, 1963, and that the due date for replies be set back from Jan. 28, 1963, to March 29, 1963. The AAR petition advised the Commission that the National Industrial Traffic League and the Freight Forwarders Institute concurred in its proposals.

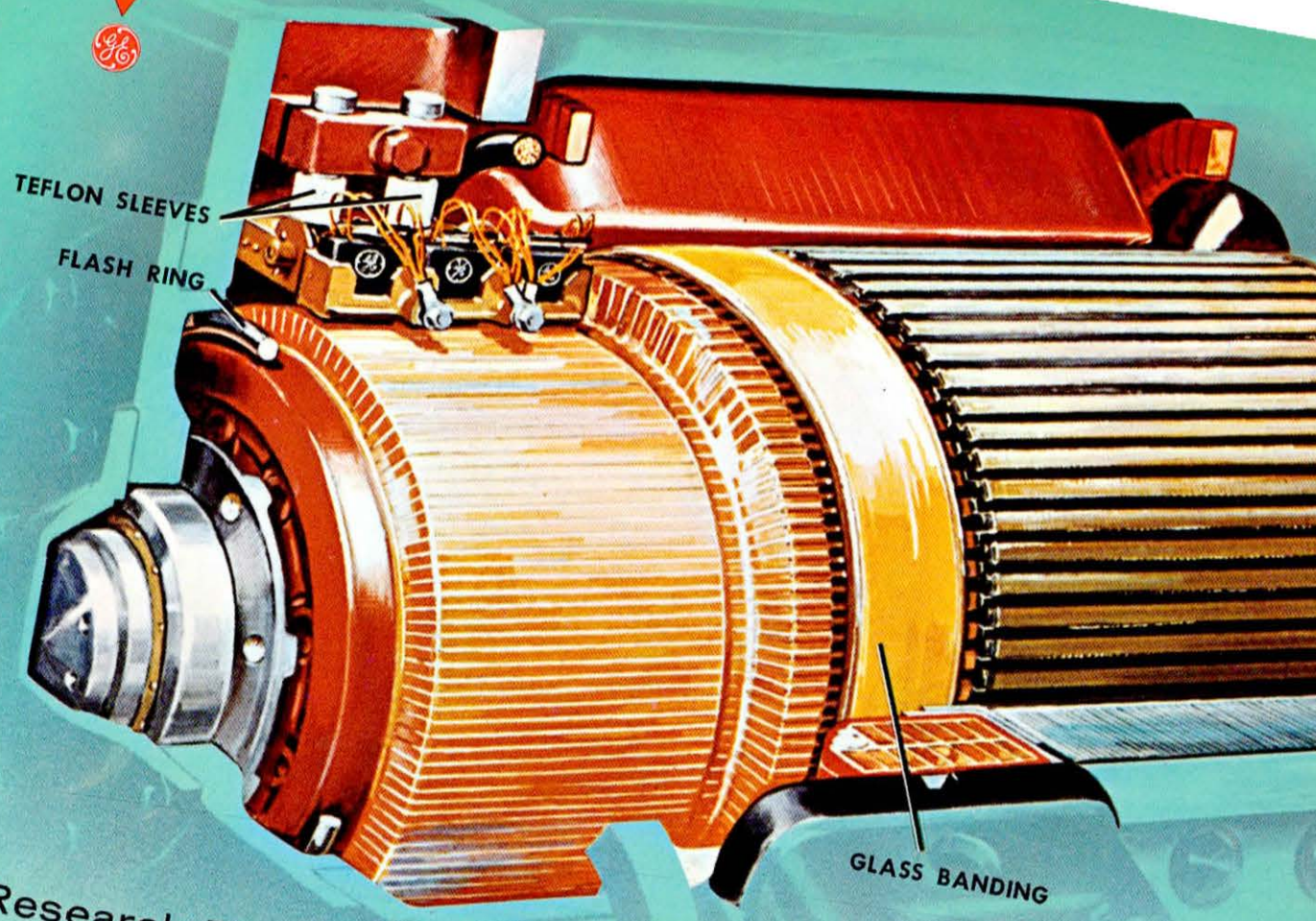
The work of preparing the railroad presentations can't be done in the time now allowed, the AAR said. It noted that the proposed rules must be given careful study, because "no explanation of the purpose or intended construction . . . accompanied their distribution."

Meanwhile, the Commission has received "special pleadings" in which parties indicate briefly, without argument or supporting data, their reaction to the rules. These pleadings were due Nov. 16.

The AAR filed one of them, saying that the proposed rules are "substantially unnecessary."

The special pleadings of individual roads and territorial associations were to the general effect that the proposed rules would hamper the development of piggyback service.

on VALUE



G-E Research Delivers
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Locomotive Renewal Parts

FLASHOVER DAMAGE CONTROLLED

Extending life and improving reliability are two major concerns of General Electric research engineers. An important project in this field is controlling flashover damage.

Three innovations—glass banding, Teflon sleeves, and flash rings—are significant reasons why flashover is no longer a cause of major motor damage. Glass banding of traction motors, now an industry standard, was a G-E first. Teflon sleeves are impervious to flashover, and their application to brushholder studs is another patented General Electric development. Flash rings protect commutator end bearings by routing flashover directly to ground.

Such practical products of research are built into all G-E renewal parts. Because they extend life and improve reliability, General Electric Renewal Parts increase the earnings from your motive power.

121-13

GENERAL ELECTRIC

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"The Whole Format of the Freight Traffic Issues Is Excellent"...

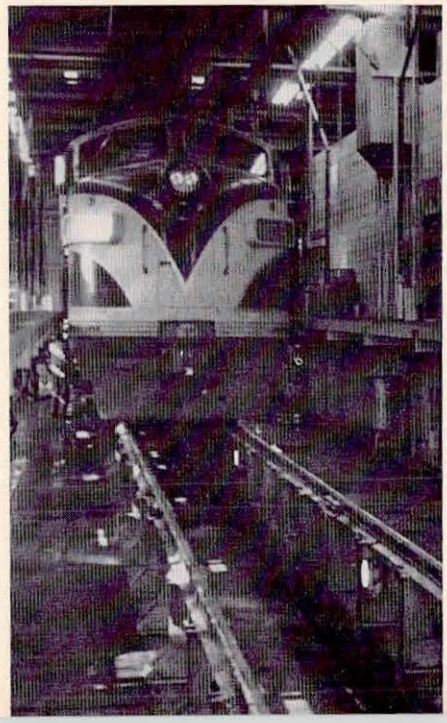
"I find the monthly Traffic Poll feature the most interesting and informative as it brings forth the thinking of industrial traffic men from all sections of the country on important issues of the day. I also appreciate the articles of a technical nature, such as the one on short-haul rates in your June 25th issue. The capsuled Washington news keeps one current on important developments in a few brief moments of reading. Generally speaking, the whole format of the magazine is excellent and the advertisements are well presented and often develop ideas for use in our own operations."

Lloyd W. Gragg

LLOYD W. GRAGG
General Traffic Manager
Kaiser Gypsum Company, Inc.

MAINTENANCE of rolling stock has been consolidated in one structure along with diesel servicing (below).

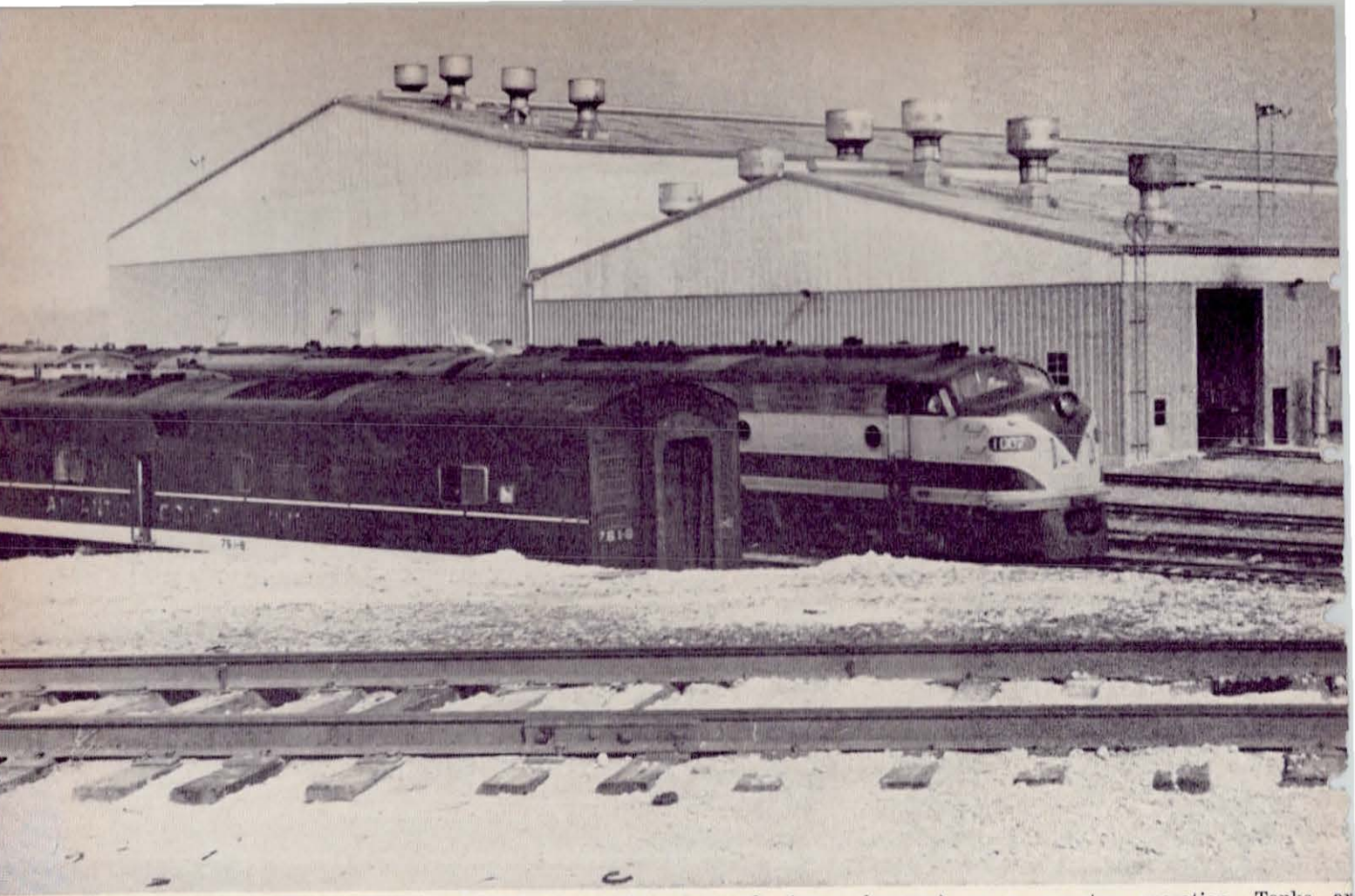
RF&P's New Shop Designed to Cut Costs



All Richmond, Fredericksburg & Potomac rolling-stock repairs have been consolidated in one building. The repair operations—plus purchasing and stores headquarters—are now housed in a new $1.8-million 4-acre shop and office building in Richmond, Va. The structure was designed to improve the efficiency of servicing and repairing rolling stock and equipment, leading to reduced costs of operation.

The consolidated shop is also making it possible for the RF&P to vacate a tract of prime industrial sites at Richmond. Obsolete railroad shop and office structures are being razed or leased in the area, now known as Bryan Industrial Park. The new shop is adjacent to Acca Yard, the RF&P's Richmond classification facility.

The RF&P—a 113-mile, double-track link between Washington, D.C., and Richmond—handles freight traffic between Potomac Yard at Alexandria,



LOCOMOTIVE SERVICING is performed on run-through track (open doorway) as a one-stop operation. Tanks ar

Va., and railroads converging on Richmond from the South. The area served by the RF&P itself is of growing industrial importance. In addition to its heavy through freight traffic—interchanged primarily with the Atlantic Coast Line and the Seaboard at Richmond and with the Baltimore & Ohio and Pennsylvania at Potomac Yard—the RF&P also functions as a link in the heavy passenger service between Northeastern cities and the Southeast. Participation in through passenger services involving the PRR, ACL and SAL requires the RF&P to own and maintain many passenger-train cars.

Because of its heavy traffic, both freight and passenger, the road has a relatively large motive-power inventory. The short length of its main line makes rapid turn-around important in achieving satisfactory road locomotive utilization. Normally, most locomotive servicing is done at Richmond rather than at the northern terminals—Potomac Yard for freight, and Washington for passenger locomotives. In addition, the RF&P services and inspects all ACL road locomotives which terminate their northbound runs in the Acca freight yard, or at Richmond Union Terminal (Broad Street Station).

During the winter season there is a regular upturn in both passenger and freight traffic, with a significant increase in the number of train movements. Normal off-season schedules call for 10 freight- and 21 passenger-train movements over the RF&P daily. Regular ACL operations involve about 10 freight and 10 passenger trains daily. The RF&P equipment inventory includes 69 locomotives, 101 passenger cars and 315 freight cars.

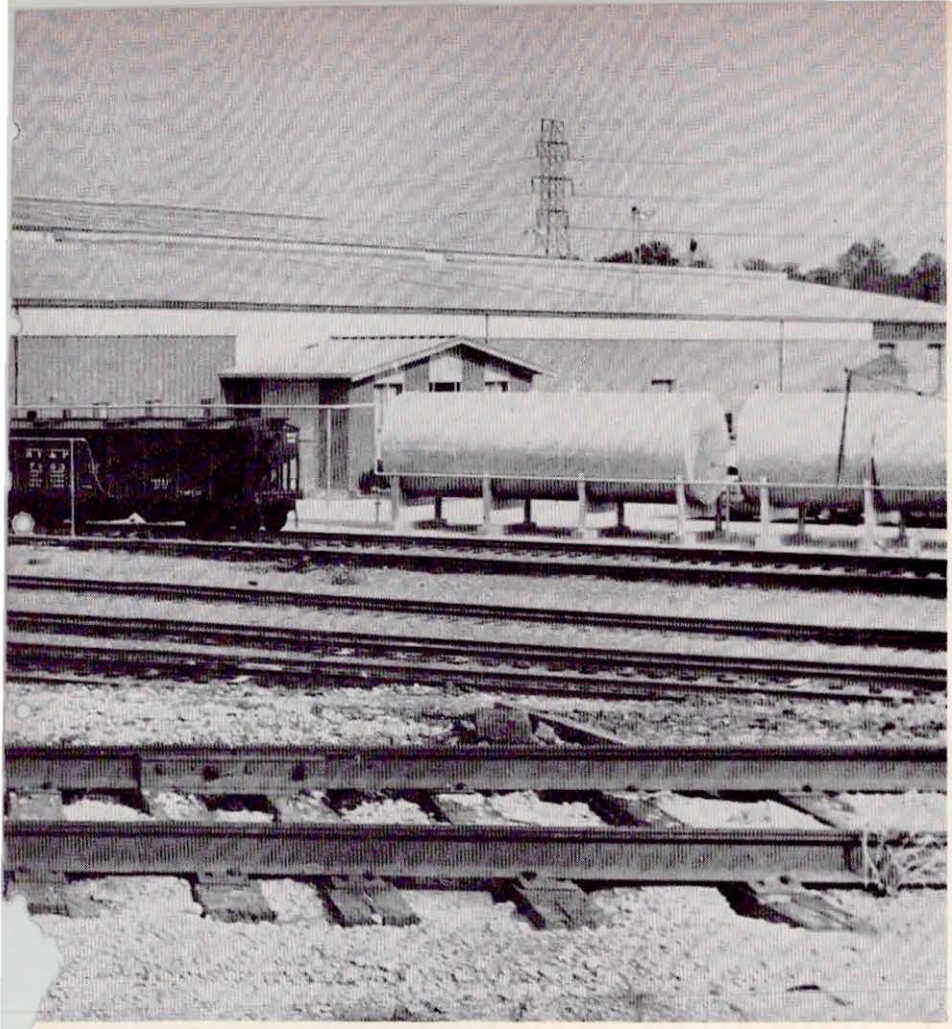
Three main areas

The car and locomotive shop is divided into three main areas—one for repair and mantenance of diesel locomotives, another for servicing and repair of passenger and freight cars, and the third for storage and distribution of materials and supplies. Opening of the new shop is making it possible for the RF&P to vacate 40 acres of potential industrial sites and is also providing access to an additional 50 acres.

The project is the result of coordinated efforts by the RF&P mechanical and engineering departments. Planning started in 1960 when S. Shumate, RF&P president, appointed a committee of engineering and mechanical department officers charged with preparing plans for facilities which would permit more efficient equipment maintenance operation and, at the same time, make the industrial tract available. Plans for the new shop were approved at an RF&P board meeting in November 1960. While saving in maintenance of equipment costs were estimated to produce an attractive return, the industrial development possibilities gave further impetus to the plans.

The RF&P acted as its own general contractor on the project. The road utilized its own earthmoving fleet and maintenance-of-way forces for a major portion of the work. This included excavation of 350,000 cu yd of material, driving 823 piles, pouring 6,500 cu yd of concrete, and laying 5½ miles of track.

The Armco prefabricated aluminized-steel building which houses the new shop was erected by the manufacturer. It has approximately four acres of floor space under roof. The building, just west of the RF&P north-south main line at Acca Yard, has 10 tracks entering it. Five of these are through tracks—four for car repairs and one for locomotive inspection and servicing. Four stub-end tracks entering the shop from the north



ubricating oil storage; hopper car contains dry sand.

side are used for locomotive repairs. An additional stub track extends into the machine shop area from the north.

The main bay, 460 by 120 by 160 ft, has a clear height of 40 ft and is equipped with a 120-ft traveling crane. To the south and parallel to this is another 460- by 120-ft bay, with a clear height of 20 ft. The second bay contains all the offices, the storehouse, and several of the specialized work areas. Extending from the north side of the main bay is a 120- by 80-ft wing containing additional work areas and the shop heating plant.

Diesel servicing

Normally, locomotives enter and leave the shop over a double-track lead extending from the shop to the south end of Acca Yard. There is also a lead from the north and a nine-track locomotive storage yard at the west side of the building in which units are placed after being inspected and serviced. A track diverging from the inbound lead serves the car repair facilities. In addition to the four car-repair tracks extending through the shop, another track, designated as a load-adjustment track, passes outside the east end of the building. Cars are moved northward over these five tracks after being delivered to the shop by switching locomotives. They are picked up at the north side of the building for return to Acca Yard or to the Richmond passenger station.

Trip servicing, inspection and repair of locomotives is performed on the 280-ft run-through track adjacent to the west wall of the shop. Designed for working 200 units per day, normal daily load ranges from 95 to 140 units. This includes all types of RF&P units and the road-freight and road-passenger power of the ACL.

Locomotives are delivered to the servicing location inside the shop on the run-through track by road crews as they tie up at the ends of their runs. Locomotives, both RF&P and ACL, enter the run-through track from the south. Normal servicing, inspection, and repair cycle for a four-unit freight locomotive is approximately 30 min. All facilities are arranged so that the locomotive need not be again moved after spotting in the shop until all work has been completed.

The run-through track is pedestal-mounted throughout its length, with pits and elevated work platforms along both sides. Exhaust hoods extend over its

Pre-engineered

The RF&P's new consolidated shop at Richmond is a complex of Armco pre-engineered buildings containing 126,960 sq ft of floor space. Major work areas are contained in two adjoining truss-type structures, while a smaller truss-type building, positioned at right angles to the others, houses the blacksmith shop, air brake shop, boiler and air conditioning room, air compressors and a shop for repairing gasoline motors.

The two larger buildings each have a clear span of 120 ft between the wall columns and a length of 460 ft. Hence, these buildings form a single structure 240 ft wide, which is entered by 10 tracks. In one bay the clear height under the trusses is 40 ft, and in the other it is 20 ft. The smaller building has an 80-ft span and is 120 ft long. The gable roofs have a slope of 2.4 in. to 12 in.

The steel framework of the buildings was assembled with high-strength bolts. The concrete foundations are supported on 823 concrete-filled Monotube steel piles.

Sides and roofs of the structures are covered with Armco Steelox panels made of Aluminized steel, hot-dip aluminum coated steel that is designed to resist atmospheric corrosion and eliminate painting. Lightning protection is afforded by grounds at opposite corners of the buildings. Access to the shop areas for rolling stock is provided by 22 electrically operated roll-up doors, 13 ft 4 in. wide and 18 ft high.

A total of 306 translucent fiberglass skylights was substituted for Steelox roof panels to provide natural light in the work areas. This illumination is supplemented by fluorescent lamps suspended from the roof members.

Ventilation is provided by a series of projected sash, 890 lin ft of ridge ventilators, and power vents that exhaust diesel fumes from areas where locomotives may be stationed. Steam heating equipment was transferred from an existing repair shop to the new facility. Warm air is distributed by space heaters attached to the roof trusses.

Building insulation was not used except in the office, washroom and storeroom areas. Here rigid board insulation with a vapor-barrier underfacing was installed on horizontal furring strips which also support the interior wall finish.

full length so that locomotive engines can be kept running while being inspected, serviced and repaired. All fueling, sanding, water and lubricating-oil facilities are arranged for servicing six units simultaneously. Sanding hoses can reach all sand-box locations on the different styles of locomotives.

While a locomotive is being serviced, it is also receiving inspections of engineroom, electrical equipment, and running gear. Minor running repairs are also made during the servicing cycle. Materials required for running repairs, such as brake shoes, are stored on pallets and shelving along both sides of the run-through track on both levels.

All other locomotive work is done on four stub-end tracks entering the shop from the north side. To the east of the run-through track are three tracks with the same arrangement of elevated, depressed, and pit work areas. One is for ICC tests, the second for heavy running repairs, and the third for complete engine overhaul. Tools and repair parts for specialized operations on each of these tracks are stored in adjacent cabinets. A diesel material storage area, convenient to both running and heavy repairs areas, is operated on an open-stock basis. East of the elevated work platform is a track equipped with a 90-ton truck drop pit and a smaller single-wheel-set drop pit for individual wheel sets and traction motors.

Between the drop pit track and Track 6, which is at the approximate center of the shop, is an area where trucks, both locomotive and car, are rebuilt and where traction motors and steam generators are repaired and stored. The RF&P uses unit exchange for major repairs of heavy rotating electrical equipment.

An 80- by 120-ft bay extending northward from the main shop between Tracks 6 and 7 contains a 58- by 39-ft blacksmith shop, a 60- by 39-ft compressor and boiler room, a 40- by 30-ft automotive equipment repair shop, a 40- by 30-ft shop maintenance area, and a 40- by 58-ft air-brake shop. Movement of car and locomotive components throughout the shop requires the following materials handling equipment: eight "Trucksters," four forklifts, and two crane trucks. Major locomotive and car components can be moved through the main shop bay by a Whiting 120-ft traveling bridge crane equipped with a 30-ton main hoist and a 5-ton auxiliary hoist. This crane is equipped with both cab and pendant controls. It covers all tracks in the shop except the run-through locomotive servicing track.

A 22-ft, 5-ton bridge crane operating across the main bay of the shop covers the wheel-shop area. Wheel-shop equipment includes all machine tools necessary for manufacturing new car and locomotive wheel sets, for restoring tread contours, and for journal refinishing.

Opening into the main shop bay opposite the air-brake shop is the 29- by 60-ft electrical shop, a 39- by 60-ft parts reclamation shop, and a 39- by 10-ft parts cleaning area.

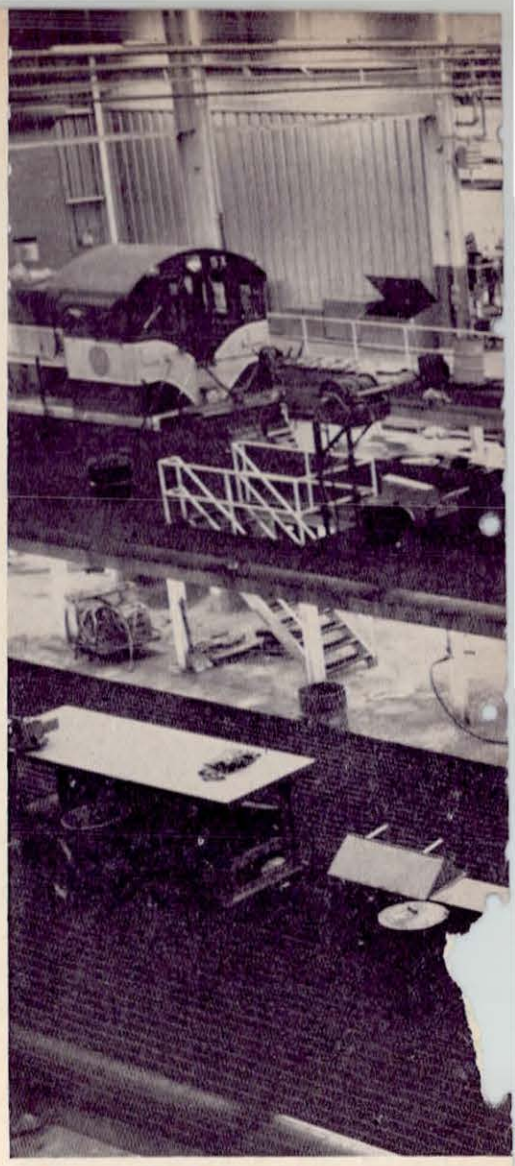
Two tracks for light and heavy passenger car repairs, respectively, have between-the-rails pits in the main bay. Jacking pads extend the full 240-ft lengths of these tracks through the main and south bays. Jacks are used for raising carbodies during overhaul. Classified repairs are given to two to four passenger cars monthly. Light repairs to RF&P and foreign passenger cars average four daily. Throughout the passenger-car repair area, also through the adjacent freight-car repair area, are hose reels for delivering steam, compressed air and water. In the locomotive-shop area, as well as in the car-shop area, electrical and welding receptacles are located at convenient intervals.

While the heavy freight-car repair track does not have pits, the concrete floor between and at both sides of the rails has a depressed area flush with the rail base. An average heavy repair load is 15 cars per month.

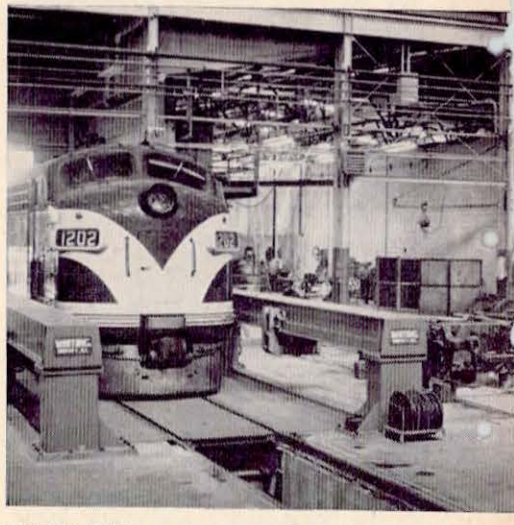
The light freight-car repair track at the east end of the shop has been equipped with a Whiting spot-type repair system. All equipment is controlled from an operator's console. Jacks, rabbits, derail and shop doors are electrically interlocked for safe operation. Separate intercom and warning systems have been installed for this car-repair operation. Cars are moved to the jacking spot by the rabbit from distances as great as 550 ft from the south door of the building. A second rabbit system moves cars out of the shop after work has been completed.

Jacking is done with 80-ton traversing jacks. Jib cranes at both ends of the jacking spot are equipped with power hoists for truck disassembly. Hose reels at four locations around the repair spot supply compressed air, oil, grease, oxygen and acetylene. Tools are mounted on boards at the spot. Repair materials are stored on shelves, racks, revolving bins and stack-type skid boxes in the repair area. This light-car-repair facility has a capacity of 33 cars per day, with the present work load being approximately 25.

The storehouse, in the south bay adjacent to the offices, has over 20,000 sq ft of floor space. Beneath the administrative offices of the mechanical and purchasing departments is the RF&P printing shop and employee locker rooms.



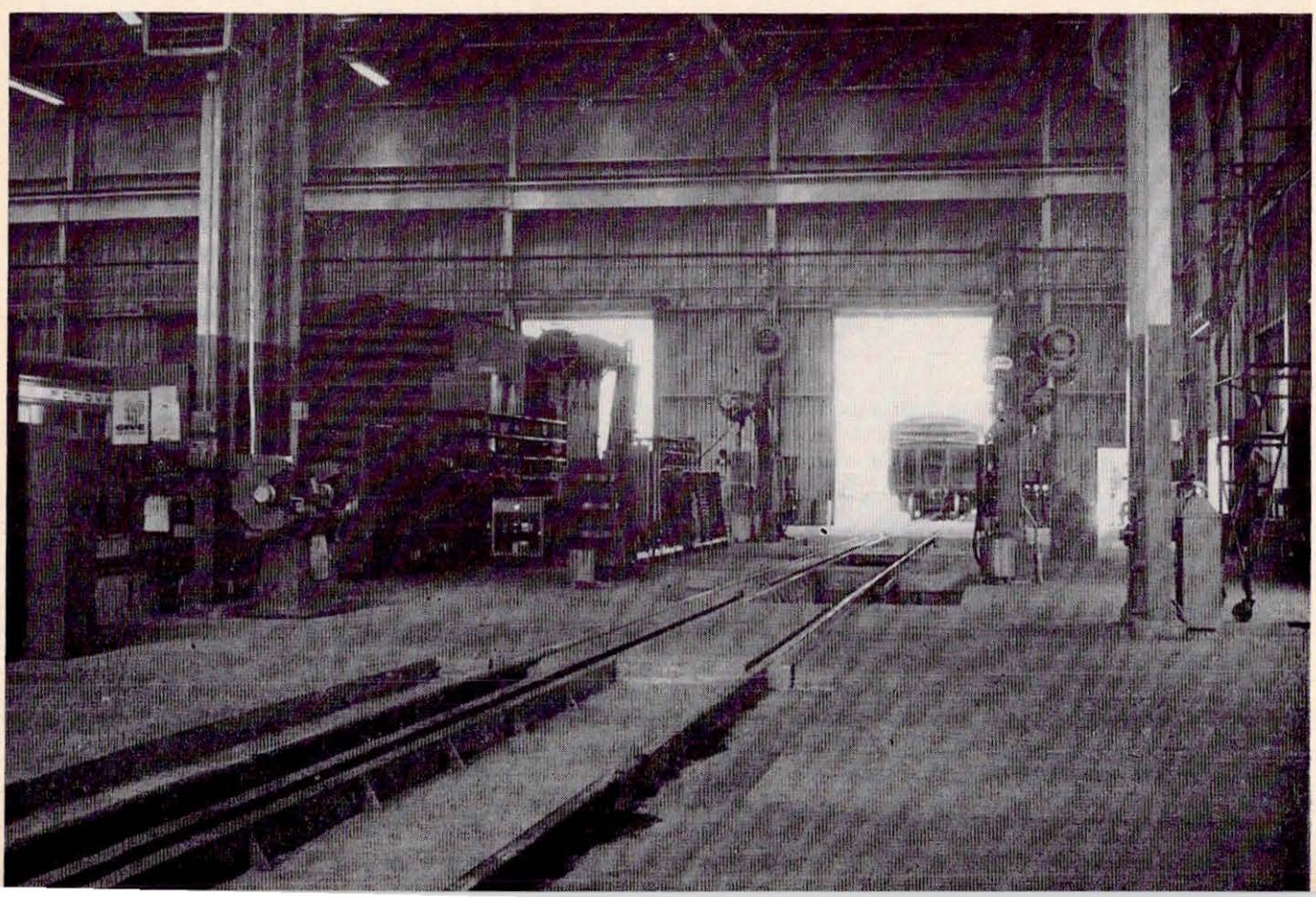
DIESEL REPAIR area includes four tracks



DROP PIT can accommodate six-wheel truck from passenger diesel; on same track is smaller drop pit for removing single wheel-and-axle assemblies from units.

SPOT REPAIRS for freight cars are made on specially equipped track at east end of shop. Rabbits and jacks are controlled from single console.

at west end of shop; beyond are truck-rebuilding and wheel-shop facilities. Cars are repaired at far end.



WP-GE Seek Better Decision-Making Tools

Intelligent decisions can't be made (except by a lucky guess) without a base of adequate, timely information on which to build. But what information? How can it be obtained? How can it be made available to the right decision-makers, at the right time and in the right quantity?

General Electric and Western Pacific set out this year to find answers to some of these questions — to develop the broad informational needs of a railroad and then to propose the system and equipment needed to produce the data economically.

The joint study team is approaching the problem from a total systems concept. It's gone into each department on WP to find out what is done—and why and how. The aim: to determine what information is actually needed from a practical operating standpoint.

GE and WP aren't looking to develop a system that will make decisions. They do hope to come up with a program that will provide the data needed for effective decision-making.

As A. L. Davis, GE consultant and railroad expert, put it: "We started with few preconceived notions or expectations." In the accompanying interview, Mr. Davis outlines the scope and nature of the total systems concept.

Q. Mr. Davis, what has been learned about rail operating and management needs?

A. Biggest thing, so far, is the fact that railroads need more information than they are getting. In many cases the kind of information they need has not been available because the machinery has not been set up to collect it. If they had attempted to collect it, the cost was prohibitive and the time involved made the information meaningless. Traditionally, railroads have been run on a rear-view-mirror basis insofar as management decisions are concerned. This was not because they wanted to do it that way, of course, but because nothing better was available. There are two broad information requirements in managing a railroad system: an operating information requirement, where information is needed almost instantaneously; and a long-range, planning type of information of a historical nature.

Q. Earlier you mentioned that train movement was an area the study team was examining critically. Would the GE concept be able to improve on areas like train scheduling?

A. Definitely. The study's implementation could, conceivably, eliminate freight schedules. Today, schedules on freight trains are only something put up as a point of departure. Most railroads set up freight train schedules as an operating convenience. A train may have a given schedule but it may run as much as 11 hours and 59 minutes late on that schedule. When it runs more than 12 hours late, it is put on the next day's schedule. Scheduling is only a tool the human mind has found necessary to running a railroad and to using the roadway concurrently in some sort of systematic way. If, in some way, railroads could pinpoint at any time each piece of equipment and every train on the system and know how much time would be involved in getting from where it was to where it was going, then there would not be a need for schedules. As the total systems concept develops, if it is valid, schedules could become something used only as general public information. In the day-by-day operation of the railroad they will probably have little or no value.

Q. Are there any railroad departments that will gain more than other departments from the use of the total systems concept?

A. Total systems involves the whole railroad—so gains would not come only in isolated areas—they would be across the board. Adoption of the total systems concept, however, if valid, will easily rival or surpass the diesel as a factor in changing rail affairs. It will be a tough rail change to make.

Q. What is meant by a total systems concept?

A. The total systems concept, as applied to railroads, refers to the mechanism for securing the total information required by a railroad system. We are trying to determine the best way of getting that information, to furnish the proper answers necessary at operating levels so that rail officers at all levels can make more effective decisions and do a better railroading job.

Q. Why did GE choose to study railroads rather than some other industry?

A. In analyzing the fundamental capabilities of computers, railroads looked like a proper field in which this new technology could be effectively used. Railroading is an extremely complex business, with many repetitive operations that fall into a pattern. This is the kind of thing that lends itself to machine work. Decisions in the past have been based upon a relatively small amount of basic information and upon hunches. In general, railroading is carried on as an art rather than as a science because the basic information from which management can make valid decisions is not available. There are opinion-derived and emotion-derived decisions made continuously in railroading. What the WP-GE study is trying to do more than anything else is to describe the way in which railroading can be changed from an art to a science.

Q. What area of railroading do you expect will be most improved by the use of whatever system the study comes up with?

A. The improvement in the use of resources could be spectacular. Railroads have about $27 billion tied up in their car fleet—about 1.8 million freight cars. The present use factor of

this equipment in producing revenue ton-miles is about 4%.

Over the past 10 or 15 years railroads and car-leasing firms have been buying new equipment to maintain this car fleet, spending about $500 million a year. Now, a manufacturer with a machine tool as basic as the freight car—and on which he was spending $500 million a year to keep it operating and only getting the kind of use railroads get out of their equipment—would be worried. We hope to do a great deal with this problem. One hundred per cent utilization, of course, is undreamed of because of the inherent characteristics of railroad operation. But a great deal can be done about the tremendous losses in car utilization due to what are supposed to be inherent rail operating costs—delays, improper blocking, improper routing, classification, holds and so forth—but which in reality are caused by insufficient or inefficient available information.

Q. What will GE do with the study when it is completed?

A. The report itself won't be very meaningful. The Western Pacific will have served as a classroom. When the study team finishes, its members will understand railroad operations and have a good idea of information needs. What GE does with this information will, I suspect, depend upon the railroad fraternity. There won't be any package, per se, that can be displayed to rail officers as a cure-all for railroad operating problems.

Q. How does railroad need for GE's total systems concept look to you—based upon what you have learned so far on the Western Pacific?

A. We sense—and I use the term deliberately—a tremendous need for understandable and useful information on all railroads. Few, if any, railroads have either the kind or quality of information needed for optimum management performance. Railroad officers recognize this and are working diligently to correct it. What is needed and the pattern in which it is required is often quite confusing.

Q. Have you had any railroad reaction to GE's total systems concept?

A. The total systems concept is new to railroaders generally. In talking to operating people semantic difficulties often make it difficult to reach mutual understanding. Generally, once the total systems concept is understood, railroad people are interested. It takes quite a bit of time to structure, even in plans, what acceptance of the system would mean. The system would trigger a completely different kind of railroad operation.

RAILROADING AFTER HOURS WITH JIM LYNE

WATER SUPPLY EXPERTS—Railroaders used to be the best (often the only) source of information on industrial water supplies. They came by this information incidentally, of course, in their necessary quest for supplies of boiler water. In many places, ponds were built to impound rain water—but increased traffic usually outgrew such facilities; and wells were resorted to, which gave rise in due course to the need for water treatment.

Anyhow, the net result was that there was nobody on a public or private payroll in a railroad's area who knew more about the quantity and quality of available water for industry use than the railroad's water supply superintendent.

I recall reading (but I've forgotten where) that Empire Builder Jim Hill, in his quest for water, regularly made use of so-called "water witches"; and a fellow who built railroads in Argentina told me a few years ago that he also used the services of these wizards. I have no idea what forces activate the sticks these witches use. But it is scarcely scientific to deny the existence of results they often come up with—where casual drilling has failed.

WHAT'S AN ARTESIAN WELL?—I had occasion to look up this subject in a geology textbook the other day, and was enlightened to learn that a true artesian well is one which is dug through waterproof rock into a stratum containing water under pressure, which causes the water to rise in the well (occasionally, but not always, to the surface). The so-called Dakota sandstone, which picks up water in the Rockies and underlays Kansas, Nebraska and the Dakotas, is the outstanding source of artesian wells on this continent. The deep wells being drilled all over the country, as water gets scarcer, are usually not artesian at all.

ANTI-TRANSIT HIGHWAYMAN—I see that the head spokesman for the Highway Users Conference (RA, Nov. 26, p. 119) has developed a case of heartburn over the proposal to spend around $800 million on D.C. rail transit and to cut down proportionately on the (so-called) freeways program.

These highway fellows, including some of the auto club heads, seem to look on anybody that favors rail transit—or any promotional activity for utilizing the technology of the "steel wheel on the steel rail"—as *ipso facto* an antagonist of highway transportation.

With two jallopies in my barn, I hardly believe I qualify as an antagonist to motoring. My only difference with these highway zealots is that I don't want to be forced to do *all* my traveling by highway.

ANTI-FREE ENTERPRISE—My standing disagreement with most of the highway and waterway protagonists (and their numerous fellow-travelers) is that they are ruining the private enterprise way of doing business in this country.

They have got so much government money into highways (over and above fees paid by highway users) that they made highway movement appear deceptively cheap. Thus, they succeeded in ruining practically all urban transit operations as private business—so that urban transit, to be able to offer competitively attractive fares and service, can do so only by getting the same kind of government help that has been built into highway transportation.

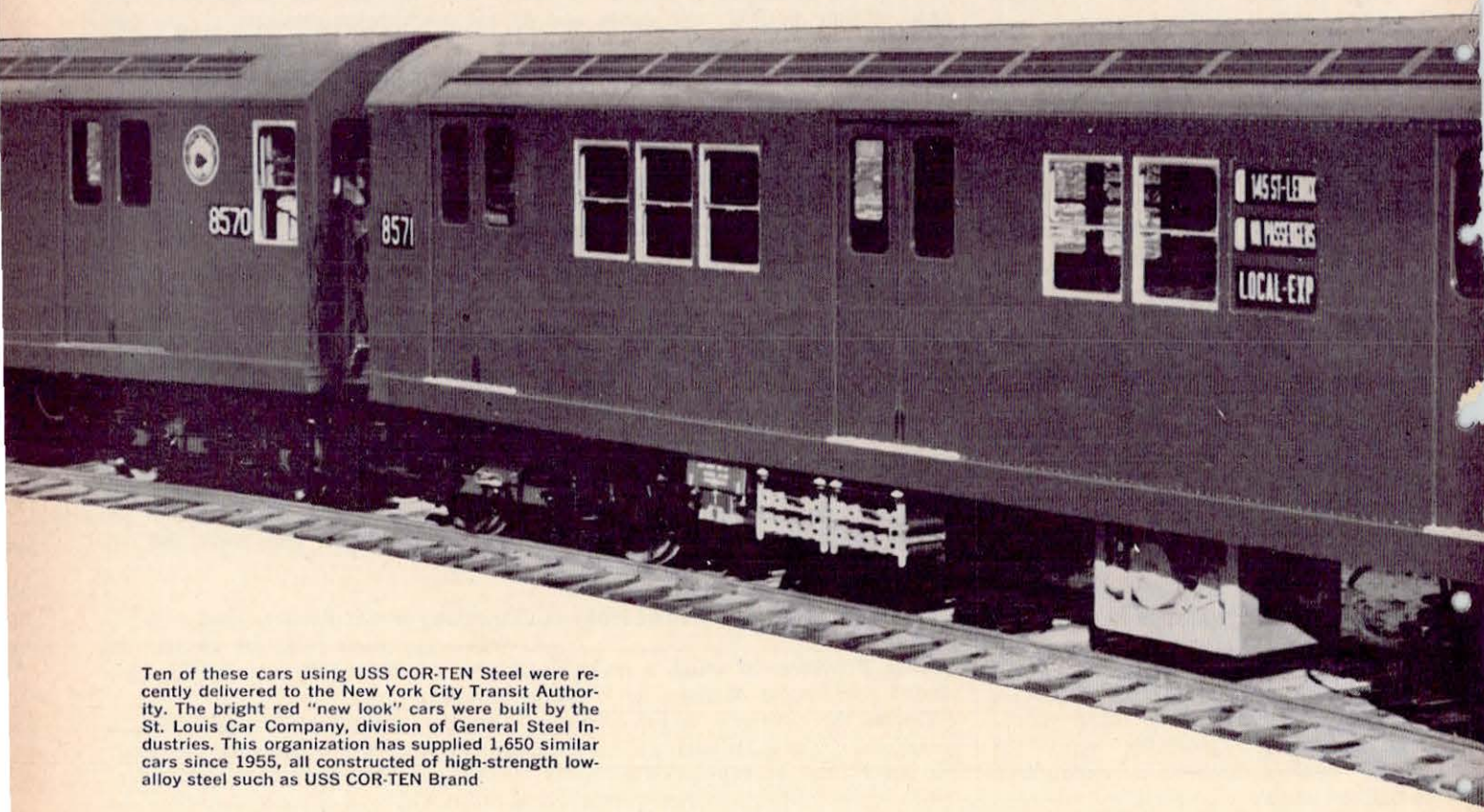
The effective socializers in this country are not people who wave the red flag with the hammer and sickle emblem on it.

SOCIALIZATION vs SOCIALISM—And speaking of socialization—just a couple of weeks ago there was an election in Quebec Province, in which a majority of voters favored take-over by the provincial government of the electric power industry.

One of the advocates of this step—an industrial relations prof—said that such *socialization* was a bulwark against *socialism*. In other words, give the electorate the booty from an expropriated private business, but without preaching the doctrines of Karl Marx. If this sounds screwy, then why is it any more so than the things that are going on in transportation in the U.S.?

With us, the electric power industry argues honestly and eloquently in its advertising against socialization of its industry. Then it turns right around and abets the socialization it abhors (or pretends to), by getting its fuel by toll-free barges, wherever that seems to its advantage.

USS Cor-Ten Steel cuts weight, adds durability to 236 New York subway cars



Ten of these cars using USS COR-TEN Steel were recently delivered to the New York City Transit Authority. The bright red "new look" cars were built by the St. Louis Car Company, division of General Steel Industries. This organization has supplied 1,650 similar cars since 1955, all constructed of high-strength low-alloy steel such as USS COR-TEN Brand

for *maximum* strength, durability, economy

Weight reduction was only one of the reasons designers chose a high-strength low-alloy steel like USS COR-TEN Brand for these 236 new subway cars built by St. Louis Car Company. They also wanted strong, durable cars that were safe, efficient to operate, and would require very low maintenance.

USS COR-TEN Steel is 50% stronger than carbon steel and offers 4 to 6 times the resistance to atmospheric corrosion. It holds paint at least twice as long as regular carbon steel.

Each of the cars uses about 16,000 pounds of this type of high-strength low-alloy steel in sheet gages such as 11, 12, 14, 16, 18 and in plates, structurals, bars and strip, which help reduce weight. Power costs go down with every pound of weight saved. The weight saved in these 236 cars quickly pays for the slight extra cost of the high-strength low-alloy steel.

Rolling stock maintenance is greatly reduced because of USS COR-TEN Steel's resistance to atmospheric corrosion. Most of the first subway and railroad cars built from USS COR-TEN Steel years ago and similar high-strength low-alloy grades are still in service.

Other USS Steels that save money. United States Steel now has a complete family of weldable design steels with minimum yield strengths from 33,000 to 100,000 psi. A new covered hopper car built of USS TENELON Stainless Steel, for example, can handle any cargo from foodstuffs to chemicals because it can be kept *kitchen clean* with a simple washing between most cargoes.

For information or experienced metallurgical help in using our Family of Steels, write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania. USS, COR-TEN and TENELON are registered trademarks.

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USS United States Steel

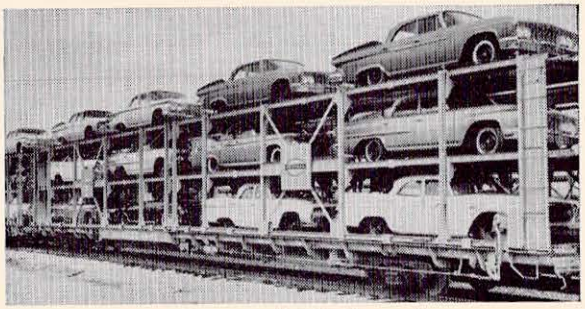
The 21st Century Concept

It's the most dramatic, dynamic concept to fall on American industry since mass production. As esoteric as cybernetics, it still relies heavily on such a plain, old business virtue as horse sense. It smacks of Buck Rogers and the 21st Century, just as rockets and guided missiles once did. Businessmen, boxed in by descending profit margins, are pursuing it with increasing fervor. The concept is logistics. ■ The word itself still has the semantics people divided. Even the newest, most-revised dictionaries still define it as the military science of supplying troops in the field. Other attempts at definition: the orderly manner of carrying out a massively complicated program; the art of managing materials; the skill of delivering the goods where wanted, when wanted, at maximum profit. That the word has currency is indicated by its use in two best-selling novels and repeated use in a Pulitzer Prize-winning work of non-fiction. **Logistics for profit.** Like many new terms, this abstract concept defines itself better by example than by phrase. The building contractor relies on logistics; indeed, can bankrupt himself without it. He must so organize his skilled tradesmen with the tools and materials of their trade in such a sequence that a steel skeleton rises out of a solid foundation and takes on a skin of marble and glass in symphonic, arithmetic order. The wrong orchestration at any phase causes chaos, costs dearly. ■ The traveling secretary of a major league baseball team need be a logistician of a high order, too. Schedules, equipment, hotels, busses, airlines and players all must mesh in a smooth order comparable to the crispest double play. Many a suburban housewife, juggling home, school, business, charity, husband and children, would insist upon the title of logistician. ■ American industry came upon logistics in the late 1950's. This discovery naturally followed highly-developed automation. The hardware for a new industrial order was here; the ideology need follow. The computer had an orderly mind, a massive memory, an infinite speed of deployment of both. But still it needed men to tame it; turn its highly sensitive abilities into systematic—and more importantly, profitable—channels. In cartoons, computers won quiz shows, licked masters at chess. In executive suites, however, this new genius posed as much of a problem as the executive secretary wearing a bikini in the board

room. **The systems approach to marketing.** Logistics had its first hearing among the chemical and petrochemical industries. Research-minded by nature, they took easily to a systematic investigation of a systems approach to solving their operating procedures. And if logistics has a synonym, it's systems. A new idea got the kind of study from chemical people that they would give a rare earth, an exotic fuel or a space-age fabric. As a result, the chemical industry today ferments with experimentation of this concept. ■ Vice presidents in charge of just about everything—excepting staff functions—have risen up, charged with bringing a profitable order to intelligent marketing. The automotive industry is investigating, too. Already it has latched onto a new tool of logistics by moving its distribution process back to railroads. The hardware that has made this possible —the automobile rack car—has also established brand new patterns of automobile marketing and production.

Logistics opens a new marketing era. North American Car Corporation has pioneered discussion about logistics. We realize the broad scope, the manifold business opportunities in this new concept. We realize, too, that one company engaged in service to the distribution needs of industry cannot hope to have all the answers. Nevertheless, North American Car Corporation wants to stay on top of each new chapter of this rapidly-developing ideology. North American Car has no extensive commitment to any particular product line. We can be, and are, objective, acting as supplier, inventor, designer and catalyst in the development of new and better ways to improve the logistics of business. ■ In coming months we hope to use space here and elsewhere to report on innovations in hardware, procedures and people's thinking that are shaping this new industrial era. Because our basic business is distribution service, North American Car may find it necessary to speak more often about things we are doing rather than on the broader ramifications. Still, we invite semanticists and industrialists to speak up and define logistics in both word and practice and offer a forum for such discussion. We feel that, as a service company, we owe customers—present and potential—the broadest possible exploration of this new idea so rampant with profitable implications.

Needed: a Systems education for electronic whiz kids



New hardware re-shapes a distribution pattern

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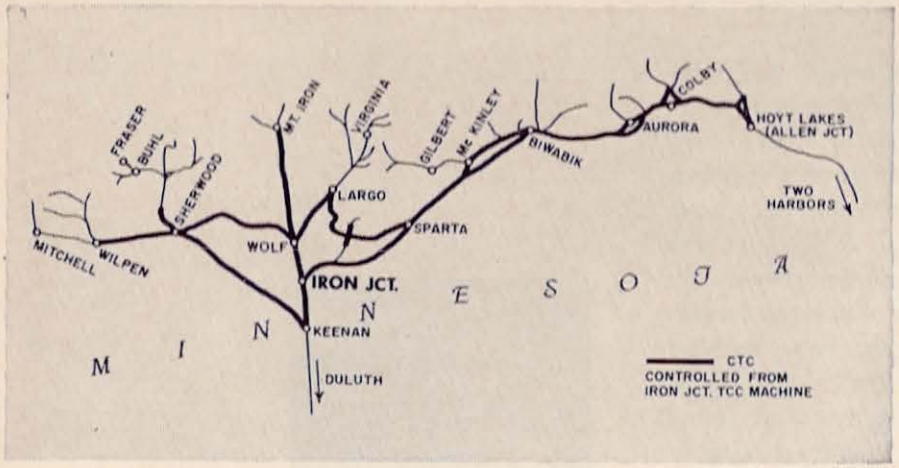
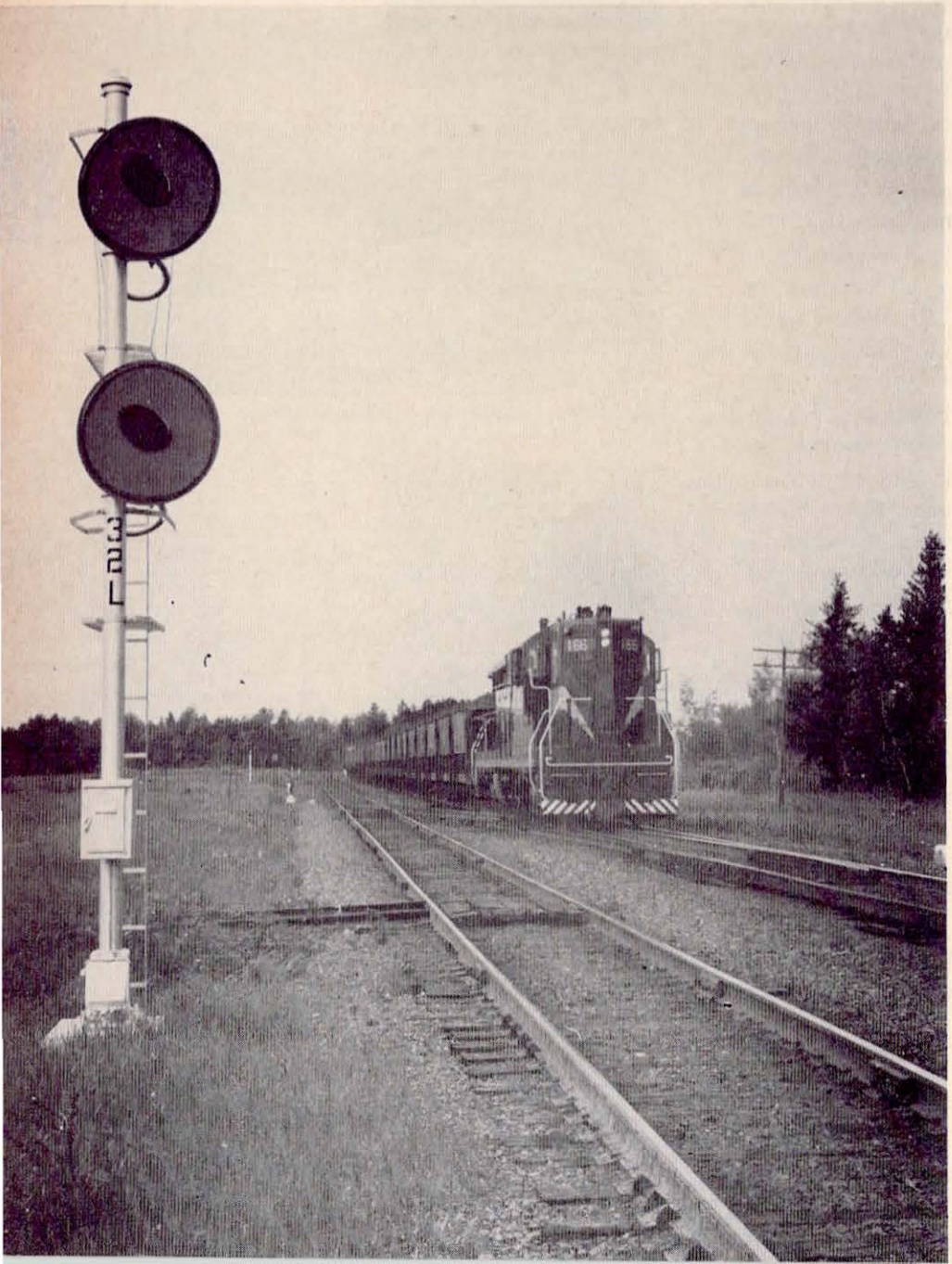
DM&IR Merges Controls for 83



IN CTC TERRITORY (above), the maximum speed for loaded ore train (below), is 25 mph, with a 5-mph tolerance. For empties, maximum speed is 30 mph.



Duluth, Missabe & Iron Range has consolidated the controls of 83 miles of centralized traffic control into one machine at Iron Junction, Minn. The new machine, known as a Traffic Control Center, enables the dispatcher to more efficiently control the movement of trains serving important iron ore mines in the northern Minnesota territory of the railroad. The CTC territory (see map) connects train assembly yards and serves important lines running to the mines.

Traffic during the mining and lake shipping season (April to December) will total about 30 trains and 85 switch and mine transfer moves every 24 hours. Empties are distributed from assembly yards, such as Biwabik, Wilpen or Rainy Jct., to the mine areas (Mt. Iron or Sparta, for example). The switch runs return to the yards with loaded ore cars (70 tons each), where they are made up into 9,000-11,000 long-ton trains for movement to the DM&IR's Lake Superior docks at Two Harbors and Duluth.

Prior to the CTC consolidation, which also included installation of about 40 miles of traffic control, much of this traffic was handled by train order operation. Considerable delays were encountered by mine or switch runs waiting for orders and clearance to enter mainlines from the mine branches.

Under CTC, a mine or switch run crew radios the dispatcher when it is ready to enter traffic control territory. The dispatcher looks at his TCC machine panel and if it is clear, as far as this mine run is concerned, he tells the crew to come on. If it is a power switch location, he reverses the switch and clears the signal. If the mine branch line enters the mainline through a hand-throw switch, there will be an electric lock on the switch. Movement into the mainline will be governed by a dwarf signal. After receiving permission from the dispatcher, a member of the train crew will operate the lock. After the unlock, reversal of the switch clears the dwarf signal from red to yellow.

Increased safety of operation is credited to the CTC by DM&IR officers. For example, in the Hoyt Lakes-Sparta territory, mine transfer crews can work on and off the mainline and do not have to worry about clearing for mainline trains. By radio or telephone they tell the dispatcher about their moves. He directs them via CTC and they run on signal indication. As part of the CTC program, the old mainline which went

Miles of CTC into One Machine

through the center of Biwabik yard, was relocated to the south of the yard. Now there is a CTC single-track main and a yard running track. Yard moves no longer cross the mainline, and mainline moves do not interfere with yard work.

Other benefits of the CTC program include the removal of about 20 miles of second main track, elimination of switch tenders at two yards, the closing of two train order offices, and the elimination of second- and third-trick operators at a third location.

By using the Union Switch & Signal Traffic Control Center pushbutton-type CTC control machine, the railroad was able to get the 83 miles of CTC territory controls into a 9-ft machine. A 15-ft conventional style C machine would otherwise have been required.

As indicated above, radio and telephone communications are brought into the Iron Jct. dispatcher's office. Eight telephone lines are terminated on the TCC machine, which also includes the WE selector that works on these lines. A dual frequency (yard and road) DM&IR base radio station is located here, and the controls are terminated on the TCC machine. A third base radio station, with its controls on the dispatcher's TCC machine, handles Great Northern radio. This enables GN crews to contact the DM&IR dispatcher at Iron Jct. about their entrances and exits from CTC territory between Wilpen and Largo, over which GN has trackage rights. GN operates two trains each way during the mining season.

PUSHBUTTON TCC machine controls 83 miles of CTC with 9 ft of track diagram.

Because there is a considerable number of setouts and pickups, the DM&IR makes use of a call-on aspect (red over red over yellow) to signal an engineman to get back on his train.

Trains enter CTC sidings at restricted speed and leave on high signals through the No. 16 turnouts. Maximum speed for loaded ore trains is 25 mph with a 5-mph tolerance, and 30 mph for empties. At junctions, trains receive a diverging-clear (red over green) over the switch reversed. As this is a two-arm searchlight signal (red only in the top arm; and red, yellow or green in the bottom arm) a light-out relay is used to cut out the lower arm if the top-arm light is extinguished. This is done so the signal will not appear as an automatic with a single aspect if the top-arm red lamp burns out or is otherwise extinguished.

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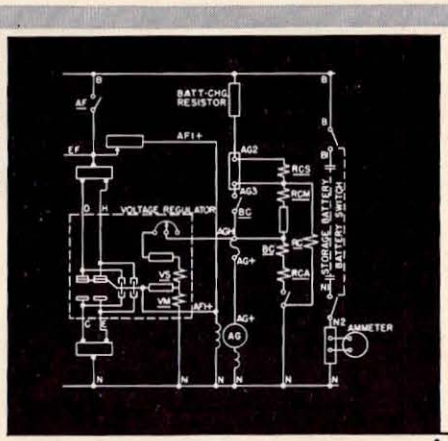
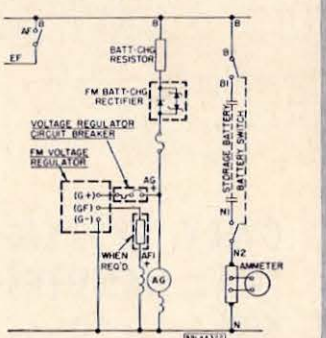


Before installation of FM Regulator-Rectifier Package



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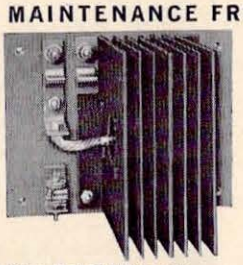

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People in the News

BELT OF CHICAGO.—General agent title changed to regional sales manager, effective Dec. 1. **A. R. Krull** appointed regional sales manager, Chicago West Region, and **R. W. Stewart** named regional sales manager, Chicago East Region.

BOSTON & MAINE.—Dana D. Phillips, purchasing agent, Boston, Mass., appointed director of purchases and stores, succeeding **George H. Bolton,** who retired Nov. 30, after 45 years with the B&M. **Leon F. Mahoney,** general storekeeper, appointed assistant director of purchases and stores. **Charles R. Clements,** assistant to general storekeeper, succeeds Mr. Mahoney as general storekeeper. Abolished positions of purchasing agent and assistant to general storekeeper.

CHICAGO & EASTERN ILLINOIS.—Douglas A. Christensen appointed industrial agent, Chicago Heights, Ill., replacing **J. B. Stock,** promoted (RA, Nov. 19, p. 42).

CHICAGO & NORTH WESTERN.—Raymond J. Degnan, general foreign freight agent, Chicago, appointed director, motor services, in charge of all trailer-on-flatcar sales and service except automotive traffic. **Charles D. McGehee,** assistant general freight agent, Chicago, appointed to the newly created position of assistant director, motor services there. **Frank H. Tribbey,** manager-motor common carrier division, Chicago, named director, automotive traffic, heading a newly established department for automobile, truck, parts and tractor traffic moving piggyback and bi- and tri-level rack cars. **Charles H. Smith,** chief clerk, traffic department, Detroit, Mich., appointed staff assistant—automotive traffic, Chicago. **F. M. Jenko,** district sales representative, St. Paul, named assistant manager, budgets and estimates, Chicago. **Raymond M. Roth,** assistant to assistant vice president—sales and service, Chicago, named general freight agent there. **Don E. Potter,** assistant general agent, Atlanta, Ga., appointed general agent there.

ILLINOIS TERMINAL.—Donald P. O'Connor, general agent, St. Louis, Mo., appointed assistant general freight agent, Peoria, Ill., succeeding **John Joseph Flynn,** who will retire Dec. 15. **Ralph T. Cline** succeeds Mr. O'Connor.

JERSEY CENTRAL LINES.—John T. Veal named assistant to president at Jersey City, N.J. Mr. Veal was formerly secretary to the president.

LONG ISLAND.—Eugene Schaefer, supervisor of material control, appointed assistant manager of property and purchases, Jamaica, N.Y.

Buford Ellington
L&N

James C. MacInnes
B-L-H

LOUISVILLE & NASHVILLE.—Gov. **Buford Ellington** of Tennessee appointed resident vice president, L&N, Nashville, Tenn. He will assume his duties with the L&N when he completes his term as governor in January.

N. C. Kieffer, Jr., division engineer in charge of yard construction, DeCoursey, Ky., appointed assistant to director of industrial development, Louisville, Ky. **Paul DerMott** named senior industrial agent, Louisville.

MISSOURI PACIFIC.—**M. G. Ummel** appointed district superintendent stations and claim prevention, Osawatomie, Kansas.

NORFOLK & WESTERN.—**W. Fred Bonney, Jr.,** appointed assistant to freight traffic manager—rates and divisions, Roanoke, Va. Mr. Bonney was formerly general traffic manager, **Atlantic & Danville** (now Norfolk, Franklin & Danville, N&W subsidiary) at Norfolk, Va.

SEABOARD.—**R. E. Wells** appointed assistant general freight agent, Richmond, Va., succeeding **F. M. Williams, Jr.,** resigned to accept service with another company.

SOUTHERN.—**Harry A. DeButts,** chairman of the board, Washington, D.C., retired Nov. 30 and that position was abolished.

SOUTHERN PACIFIC.—**D. R. Kirk,** superintendent, Tucson-Rio Grande division, Tucson, Ariz., has exchanged positions with **A. S. McCann,** superintendent, Western division, Oakland, Calif.

Robert A. Lathrop appointed division engineer, San Joaquin division, Bakersfield, Calif. **James G. Sinclair** named senior assistant division engineer, Coast division, and **E. J. Nelson** named assistant manager of personnel, both at San Francisco.

WESTERN PACIFIC.—**Robert E. Gonsalves,** passenger reservation manager, promoted to passenger sales manager, San Francisco. **Frank J. Rauwolf,** personnel assistant on the president's staff, advanced to the newly created position of manager of tour services, San Francisco.

OBITUARY

William T. Barr, 58, sales engineer, Railway Sales Department, **American Oil Co.,** died Nov. 18 at his home in Chicago.

A. E. Bechtelheimer, 81, retired engineer of bridges, **Chicago & North Western,** died Nov. 20 at Canfield, Ohio.

Thomas A. Dodge, 67, retired executive assistant to the president, **Union Refrigerator Transit Lines,** died Nov. 17 at St. Petersburg, Fla.

(*Supply Trade on page 30*)

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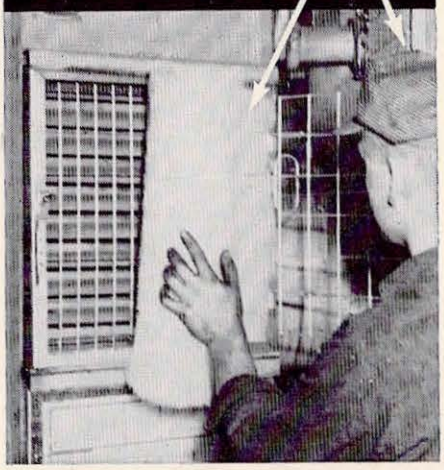

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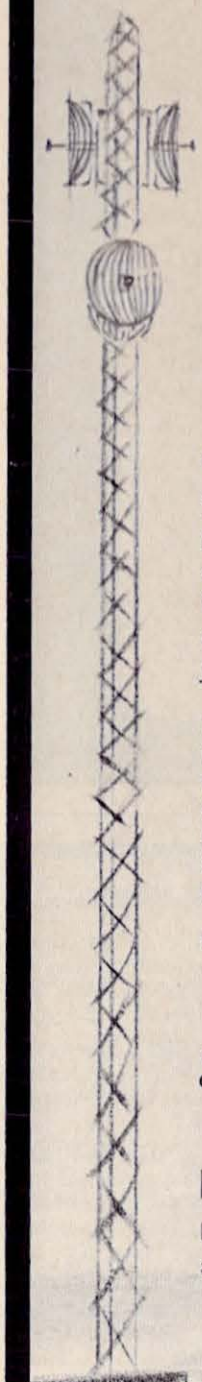

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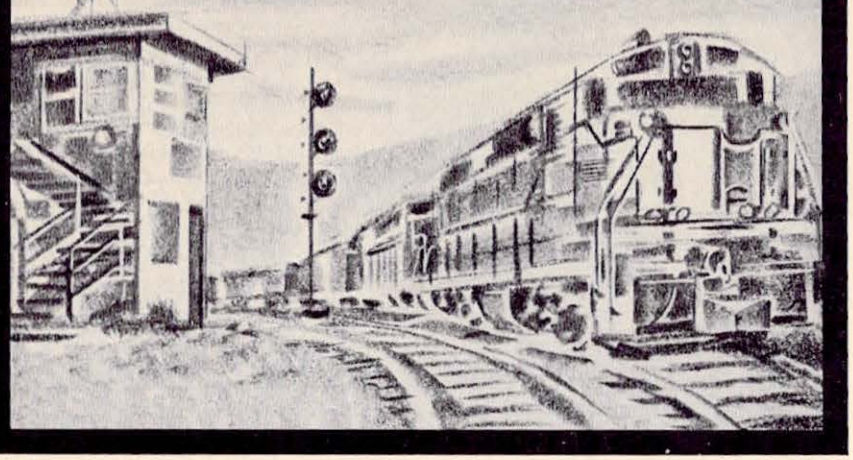


Supply Trade

James C. MacInnes has been appointed manager, Transportation and Renewal Parts Sales department, Industrial Equipment Division, **Baldwin-Lima-Hamilton,** Philadelphia, Pa., succeeding **E. F. Sheehan,** retired. Mr. MacInnes has been associated with the Nuclear and Special Products Sales department.

Fred A. Kaup, New York district manager, **Fairmont Railway Motors, Inc.,** has been appointed Chicago district manager, to replace the late **Charles L. Rager** (RA, Nov. 12, p. 47). **Avon Lane** named to succeed Mr. Kaup.

Uri B. Grannis, Jr., has been appointed sales manager, **American SAB Co.,** Chicago.

Roger Monette, production control expediter, Transportation Seating Division, **Heywood-Wakefield Co.,** has been assigned the New England sales territory, effective Jan. 1, principally working out of Gardner, Mass. Mr. Monette also will cover the New York area under **Warner B. Cornwall,** district manager, and assist **Bryant Burns** in the Philadelphia and Eastern and Western Pennsylvania territories. **Newton D. Collins** will take over Mr. Monette's present duties.

R. L. Hanes has been elected vice president of sales, **Colorado Fuel & Iron Corp.** Mr. Hanes was formerly vice president in charge of sales, Western division, Denver, Colo. **George Hartmann** remains vice president in charge of sales, Eastern division, New York.

Evans Products Co. of Plymouth, Mich., has appointed **Zimmer, Keller and Calvert, Inc.,** of Detroit, as its advertising counsel for all products except those of its building materials division.

L. P. Tracy, assistant district manager, **Union Switch & Signal Division of Westinghouse Air Brake Co.,** Chicago, promoted to district manager there, succeeding **M. R. Waller,** resigned. **G. K. Adams,** sales engineer, Chicago office, succeeds Mr. Tracy as assistant district manager.

Gerald Q. Bogner has been promoted to head the new sales division of **Wesson Corp.,** established at 1220 Woodward Heights Blvd., Ferndale 20, Mich. to serve the railroad industry with its line of Wessonmetal carbides and new line of wheel and axle turning tools.

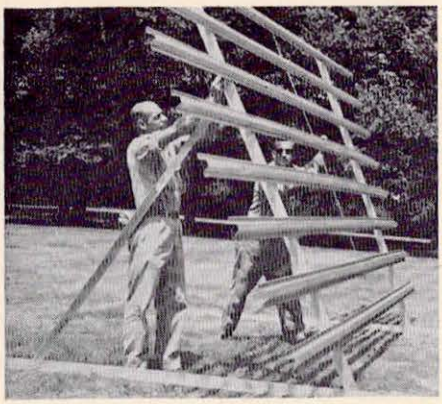
Ingersoll-Rand Co. has announced formation of **Ingersoll-Rand International** as a new division under direction of **D. C. Garfield,** vice president, **C. H. Rogers** has been appointed manager, export sales department of the new division.

Robert G. Learmont has been named sales co-ordinator, **OMC Engines & Equipment Division, Outboard Marine Corp.,** Waukegan, Ill. Mr. Learmont was formerly administrative assistant to director of services.

Charles B. Baker, president of Universal Atlas Cement Division, United States Steel Corp., New York, has been elected chairman of the board of the **Portland Cement Association.** Mr. Baker succeeds **H. A. Sawyer,** chairman of the board, Lone Star Cement Corp., New York.

Cleveland Graphite Bronze, division of Clevite Corp., has appointed **R. W. Pittman & Associates,** 708 East Hermosa Drive, Fullerton, Calif., as West Coast representatives for their railroad products.

NEW PRODUCTS REPORT *(Continued on next page)*

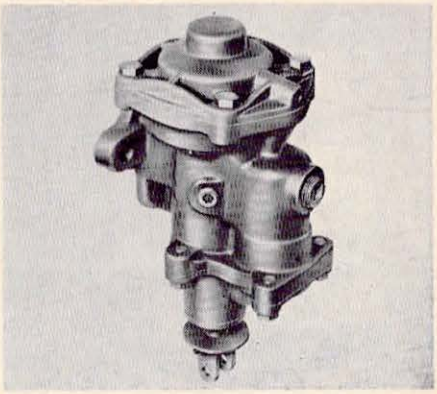


Snow Barrier (RA-1)

Designed for maximum snow-stopping ability, the new Alcoa aluminum snow barrier weighs only 105 lb per section and is claimed to require virtually no maintenance. Each section of the new unit is 19 ft long and 9 ft high and can be erected by two men in 30 min, according to the manufacturer. In addition, it is said that the fence can be easily adjusted to fit the terrain along the right of way. *Aluminum Company of America.*

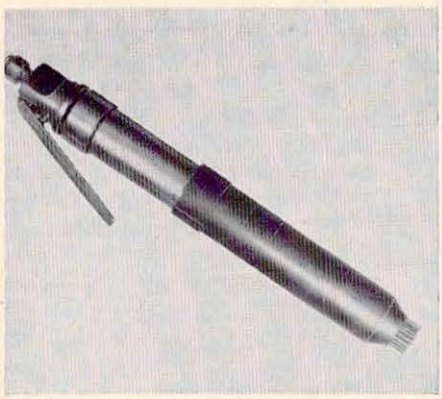
Fuel Filter (RA-2)

All contaminants 10 microns and over are said to be removed with the FF-3347-R Spin-on filter. It is spun-on with hand pressure, requiring no tools. By installing the GFB adapter in existing lines, singly or in parallel, the neoprene gasket becomes a permanent fixture. The pleated Porosite filtering element has 955 sq in. of filtering surface. The filter, the manufacturer says, is in regular service on a number of railroads. *Wix Corp.*



Brake Release Valve (RA-3)

A QRB brake cylinder release valve, with right- and left-hand adapters, replaces former QRR type. The QRB valve mounts on all new or existing brackets and adapters, retains most internal parts and desirable features of QRR. A new bypass valve unit insures normal functioning when preparing to "bleed" cars for switching, provides automatic reset if unintentionally operated. Certified by AAR as meeting all requirements. *New York Air Brake Co.*



Needle Scaler (RA-4)

To clean irregular surfaces, such as contours, corners and channels, a new multiple-needle scaler has been made available. It has 19 alloy-steel needles which impact thousands of times per minute for removing rust, paint and scale, cleaning castings and welds, and roughing up and cleaning concrete and masonry. The needle housing is longitudinally adjustable to compensate for needle wear. A scaling chisel can be inserted in the tool. *Ingersoll-Rand.*

Suspension Insulator (RA-5)

Economical use of the static wire as a communication or signal line is now possible with new L-M porcelain suspension insulators. At voltages normally used for communication, these units insulate overhead ground wires from supporting structures. Lightning protection of the transmission line is not affected. Insulators have combined mechanical and electrical strength of 10,000 lb and 1⅜ in. leakage distance. *Line Material Industries.*

RAILWAY AGE WEEKLY

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NEW PRODUCTS REPORT *(Continued from preceding page)*

Side Dump Bucket (RA-6)

Caterpillar has introduced a side dump bucket, for use with tracktype loaders, which is said to dump both to the front and side, making the bucket useful in a variety of applications where work space is at a minimum.

The extended left side of the bucket is formed into a chute for pouring, allowing use of the side dump in clean-up and utility chores. It is also said to pry loose old surfacing and cut through compacted base material. Small target areas, Caterpillar says, are also a prime application for the side dump bucket. Material leaves the bucket in a narrow stream. And operators have an unobstructed view of the spill-plate in relation to the target which allows the operator to pinpoint the material to be dumped. Inline loading, the result of side dumping, is said to reduce operator fatigue, and lessen wear and maintenance on track-type unit's undercarriage and steering clutches. *Caterpillar Tractor Company.*

Culvert Pipe (RA-7)

Larger diameters of Armco helically-corrugated pipe are now available for culvert and storm-sewer installations. Known as Hel-Cor, the pipe now is fabricated in 24-, 30- and 36-in. diameters whereas previously it was made only in 6- to 21-in. diameters, intended primarily for sub-drainage applications. The new sizes are available at no increase in cost over riveted pipe, it is stated.

Advantages claimed for helically corrugated pipe include greater strength than conventional riveted pipe and a more watertight lock seam. Hel-Cor pipe is produced from a coil of 14- or 16-gage zinc-coated steel and, as corrugations are formed, edges of the strip are folded over in a tightly locked seam. For normal culvert and storm-sewer installations, the zinc-coating provides adequate corrosion protection. However, if conditions are more severe, Hel-Cor also is available with asphalt, Paved-Invert or Smooth-Flo linings. *Metal Products Division, Armco Steel Corporation.*

Truck Crane (RA-8)

The Roadrunner, an 18-ton truck crane with an optional flanged-wheel attachment, has been developed for full forward and reverse operation on road or rail. Because of its full-reversing transmission, the Roadrunner is said to travel to and from the job site at the same speed, doing its work without getting off the rails.

The flanged wheels on the new truck crane are hydraulically operated from one power steering mechanism of the truck. The operator is thus able to straddle the rails, position and lower the rail-guide wheels and be ready to drive down the track. The manufacturer states that this can be accomplished in from 5 to 10 min, and raising the flanged wheels and moving the unit from the rails in approximately 2 min.

The crane has an 18-ton lift capacity on outriggers. Without outriggers, it has a lift capacity on the track of 25,000 lb over the rear and a maximum lift over the side—with a 30-ft boom at a 10-ft radius—of 13,800 lb. *Koehring Division.*

Welding Wire (RA-9)

Fluxcor 1 wire is for semiautomatic and automatic single-pass CO_2 welding of mild steel. Flux compounds in the center of the wire augment the CO_2 gas shield by providing ionizers to stabilize the arc and deoxidizers to clean up the weld deposit. The wire is used with direct current, reverse polarity only. Fluxcor 2 is for multi-pass welding of mild steel. Both wires are available in diameters of 5/64 and 3/32 in. *Air Reduction Sales Co.*

Iron-Powder Electrodes (RA-10)

Three Murex Speedex low-hydrogen electrodes offered for welding low-alloy steels are: HTS-80, an E8018 electrode (Mil 8018) for welding 1% nickel steel, carbon and low-alloy steels; HTS-90, an E9018 electrode (Mil 9018) for welding steels in the 90,000 psi range; and HTS-100, an E10018 electrode (Mil 10018) for welding joints requiring at least 100,000 psi tensile strength and high toughness at temperatures in minus 60 deg F range. *Metal & Thermit Corp.*

Tie Spacer (RA-11)

A high-speed version of the RMC Tie Spacer is available. Designated Model G. it may be equipped with 3-in.-diameter spacing cylinders developed specifically for high-speed spacing in skeletonized track. It is claimed that in skeletonized track speeds of 8 to 10 ties per minute can be achieved. The unit is equipped with new hydraulic rail clamps which automatically compensate for variations in rail-head width. *Railway Maintenance Corp.*

Market Outlook

Carloadings Drop 15.2% Below Previous Week's

Loadings of revenue freight in the holiday week ended Nov. 24 totaled 484,257 cars, the Association of American Railroads announced on Nov. 29. This was a decrease of 87,144 cars, or 15.2%, compared wtih the previous week; a decrease of 11,409 cars, or 2.3%, compared with the corresponding week last year; and an increase of 12,906 cars, or 2.7%, compared with the equivalent 1960 week.

REVENUE FREIGHT CARLOADINGS

For the week ended Saturday, November 24

District	1962	1961	1960
Eastern	69,896	73,607	69,439
Allegheny	78,560	87,454	77,000
Pocahontas ...	40,697	44,078	36,810
Southern	97,365	95,158	94,401
Northwestern .	57,297	58,054	51,313
Central Western	106,504	104,113	107,334
Southwestern ..	33,938	33,202	35,054
Total Western Districts	197,739	195,369	193,701
Total All Roads	484,257	495,666	471,351
Commodities:			
Grain and grain products ...	51,552	43,149	52,748
Livestock	4,216	4,058	4,570
Coal	91,754	95,632	82,976
Coke	6,066	7,333	5,232
Forest Products	29,560	31,614	28,310
Ore	19,423	27,866	13,264
Merchandise l.c.l.	18,189	22,571	28,146
Miscellaneous .	263,497	263,443	256,105
November 24 .	484,257	495,666	471,351
November 17 .	571,401	591,335	567,561
November 10 .	586,286	605,353	564,595
November 3 ..	608,614	619,435	599,555
October 27 ...	614,632	647,549	620,807
Cumulative total, 47 weeks ..	26,247,819	25,976,639	28,040,699

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Nov. 17 totaled 14,561 cars, compared with 12,655 for the corresponding 1961 week. Loadings for 1962 up to Nov. 17 totaled 628,959 cars, compared with 523,657 for the corresponding period of 1961.

IN CANADA.—Carloadings for the seven-day period ended Nov. 7 totaled 65,888 cars, compared with 110,046 for the previous ten-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Nov. 7, 1962	65,888	22,876
Nov. 7, 1961	69,400	24,889
Cumulative Totals		
Nov. 7, 1962	3,065,141	1,021,048
Nov. 7, 1961	2,993,384	1,041,464

New Equipment

FREIGHT-TRAIN CARS

► *Canadian National.*—Ordered 200 steel, 70-ton flat cars from Marine Industries, Ltd., Sorel, Que. The 53½-ft cars represent CN's first volume order for flat cars of all-welded construction. They will be used for transporting such commodities as machinery, farm implements and timber. Delivery is expected in February and March 1963.

► *Louisville & Nashville.*—Purchased 25 tri-level auto racks. The racks will be installed on 85-ft flat cars being acquired from Trailer Train Co.

► *Northern Pacific.*—Is building 25 53-foot flat cars at its Laurel, Mont., shops for delivery during January 1963. The cars will be equipped with cast steel underframes, 70-ton roller-bearing trucks and permanent end racks.

► *Southern.*—Ordered 500 all-steel, 70-ton Super-Cushion box cars with plug-type doors from Pullman-Standard at a cost of approximately $8,825,000. Cars will be built at Pullman-Standard's Bessemer, Ala., plant with delivery to be completed next February. This order will bring the Southern's fleet of such cars to 1,000.

PASSENGER-TRAIN CARS

► *New York City Transit Authority.*—Ordered 424 subway cars from St. Louis Car, a division of General Steel Industries, at a total cost of more than $46,000,000. Bids for the cars were put out last September (RA, Oct. 15, p. 37). Delivery of the new cars is expected to begin in July 1963, and be completed by May 1964. The cars are the first to be financed under Transit Authority revenue bonds authorized by the State Legislature. Completion of the order will bring to 2,850 the number of subway cars supplied to New York by St. Louis Car since 1955. St. Louis Car is now making delivery on an order for 540 similar cars.

New Facilities

► *Canadian Pacific.*—Opened a new $730,000 freight terminal in downtown Regina, Sask., last month. The fully-automated facility will be operated by Merchandise Services, CP's new traffic department which brings under one roof all rail package, freight, truck and express operations.

Purchases

► *Eight Months' Purchases up 11.7%.*—Purchases by domestic railroads of fuel, material and supplies in this year's first eight months were $99,700,000, or 11.7%, higher than in the comparable 1961 period. The increase was erroneously reported to be 1.1% in an earlier item (RA, Nov. 26, p. 115).

Utility Coal Users Get Caution Signal

Norfolk & Western President S. T. Saunders warned last week that "if pipelines or mine-mouth plants skim the cream off coal traffic, the result will inevitably mean less efficient, more costly transportation for what remains of coal and other rail freight."

"These long-range effects on your industry cannot be ignored," he told the annual meeting of the Association of Edison Illuminating Companies at Boca Raton, Fla. "Where pipelines or mine-mouth stations could be to the short-term advantage of a few power companies, this cannot be isolated from the strong possibility of overall industry penalties. As railroad coal traffic dwindled, you soon could not count on railroads for efficient and economical service to only a part of your industry."

He added: "Without sustained high volume deliveries of coal to your industry as an incentive, the railroads themselves will be hampered in progress toward lowering shipping costs."

Mr. Saunders' address followed by one week the announcement that 18 electric companies in the East will build 600 miles of 500,000-volt transmission lines to send power directly from mine-mouth generating stations to major eastern markets (RA, Nov. 26, p. 105). A smaller "coal-by-wire" project was announced earlier by the Virginia Electric and Power Co. Meanwhile, coal-pipline interests are hoping to win federal-eminent-domain rights from the next session of Congress.

Mr. Saunders told his power-company audience last week that he was convinced that railroads "can give the power industry more efficient and economical transportation when all considerations are taken into account."

He emphasized that "neither pipelines nor mine-mouth plants can approach the flexibility of railroad service. The railroads link coal producers and power companies, regardless of the size or location of either. Both alternatives, however, by their very nature must connect a large source of supply with high-volume outlets. And while railroads can handle orders small and large, both alternatives demand a very high load factor before they can operate efficiently."

Mr. Saunders was confident that the railroads will meet the new competitive challenges successfully.

"In the contest for primacy in the transport of coal," he asserted, "the railroads are going to present a rapidly moving target, for our industry is only now becoming properly equipped for staking out steady, aggressive and competitive advances in lowering transportation costs. I am confident of this. I believe that rather than reacting to the lead of these new competitive modes of coal transport, the rail industry is assuming the lead itself."

Mr. Saunders described N&W's unitized-train experiments in high-volume bulk commodity transportation.

"The N&W's two recent through runs from Roanoke to South Amboy, N. J., have clearly demonstrated its dvantages and possibilities," he said. "These movements involved the handling of coal trains of 110 and 120 cars as single units throughout the billing, dispatching, yarding and unloading operations. Customary shifting and yarding were bypassed. As a result, these trains moved from Roanoke to South Amboy, the coal dumped and the train returned in less than 48 hours over a roundtrip distance of approximately 1,000 miles. This is remarkable time, considering that the trains had to be interchanged with another railroad, and had to utilize conventional unloading facilities."

Mr. Saunders concluded on an optimistic note. "The railroad picture of today, he said, "may be painted in much brighter and more vivid hues than the gloomy tones so often presented in the past. With the electric power industry as our partner in progress, we are certain that the cooperative spirit of the past will be maintained. Together we will continue to bring dramatic new advances which will contribute to our nation's economy and further enhance its standing among the powers of the world."

Railroads Honored

The Department of Labor has cited AAR member railroads for participation in some 40 management-labor programs establishing standards for training of apprentices in railroad skills. Daniel P. Loomis, left, president of the AAR, accepts a certificate of appreciation for outstanding service from Edward E. Goshen, director of the Department of Labor's Bureau of Apprenticeship and Training.

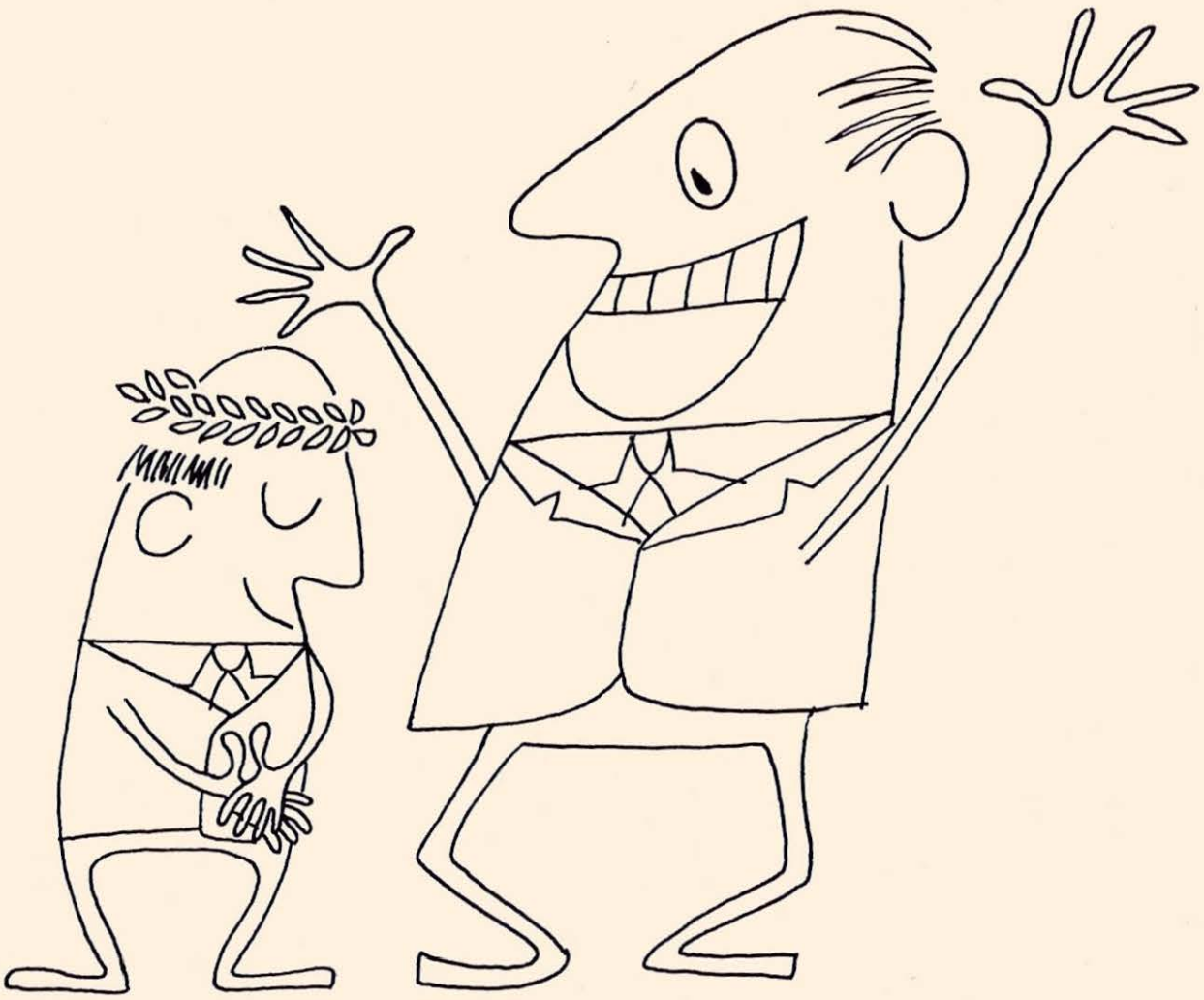
Reading to Display New Commuter Cars

The first two of 12 new Budd RDCs being built for the Reading will be displayed for public inspection at Bethlehem, Pa., Pottsville, Reading and Philadelphia on Dec. 4, 5, 6 and 7, respectively. They will go into revenue service between the two last-named cities on Dec. 8, with their first runs leaving Reading at 6:04 a.m. and Philadelphia at 5:45 p.m. A trial and press run was made between Philadelphia and Lansdale on Nov. 29.

All 12 of the air-conditioned, stainless-steel, 103-passenger units will be delivered before the end of the year. They will permit the Reading to provide improved service and, in many cases, faster schedules on its main line between Philadelphia, Reading and Pottsville; on its Bethlehem branch, and on some of its "Operation Northeast" commuter runs between Philadelphia and Fox Chase. Among other services, they will provide four round-trips between Philadelphia and Reading, starting Jan. 2.

The cars are being leased by the railroad from Philadelphia's Passenger Service Improvement Corp. Funds to make it possible for the PSIC to purchase the cars were supplied by the Housing and Home Finance Agency under an act of Congress making federal financing available for mass transportation demonstration projects.

"At a time when news of passenger business is generally gloomy," commented Reading President E. P. Gangewere, "it seems to us that delivery of new passenger equipment and inauguration of improved passenger service is a noteworthy event."



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New York Railroads, Unions Figh

Battle flags are flying in New York over a proposal to build a 400-mile deep-ship canal linking the St. Lawrence Seaway and the Hudson River via Lake Champlain. Solidly against the "billion-dollar ditch" are New York railroads and their unions. Below, management and labor spokesmen—Victor F. Condello, vice chairman and general counsel of the New York State Association of Railroads, and Francis F. Boardman, state legislative chairman of the Brotherhood of Locomotive Firemen & Enginemen —tell why they've teamed up to fight the project.

Q. Mr. Condello, just how seriously would this proposed waterway affect the railroads you represent?

Condello: Frankly, I am certain that the Champlain Seaway would be the death knell to rail service in northern New York and northwestern New England. The railroads serving these areas are already suffering from traffic malnutrition. To place an additional subsidized transportation facility in this area would certainly starve some of these rail lines right out of existence.

Q. Do you mean that all of these railroads operating in the area would go out of business?

Condello: No, I mean an end to rail service in the area where they propose to dig this billion-dollar ditch. For example, Mr. J. P. Hiltz, president and general manager of the Delaware & Hudson, stated recently that a deep Champlain canal would result in the complete abandonment of the north end of the D&H. Mr. R.R. Manion, assistant to president of the New York Central, has said it would have the same effect upon the northern branches of his railroad in New York State. There is every reason to believe that other railroads serving this area would be affected just as seriously.

Q. Mr. Boardman, do you have any idea of the number of jobs this canal would jeopardize?

Boardman: In New York State alone, we estimate that there are more than 5,500 rail employees in the area along the proposed waterway route. These employees earned more than $30 million in 1961. We are convinced that most, if not all of these jobs, would be placed in very serious jeopardy if the Champlain Seaway were to result in the abandonment of the lines just mentioned by Mr. Condello. This is not a heavily populated area and if 5,000 or more citizens were to lose their jobs, the economic effect upon the communities in this area would be devastating. And this is not to mention the tax loss, which for the D&H alone amounts to more than three-quarters of a million dollars in the affected area.

Q. Are waterway users in general the chief proponents of the project?

Condello: Surprising as it may seem, not all water carriers are in favor of a Champlain Seaway. For example, I believe that Seatrain Lines is opposed to it. It appears that the chief proponents are foreign ship operators and those served by these foreign shipping lines who would like to have the taxpayers provide them with a cheap transportation facility. When I say cheap, I mean cheap for the users, not the taxpayers who would have to foot the bill.

Q. Have there been any estimates of the cost of this project and of savings in transportation costs?

Boardman: Let me answer the last part of your question first. In 1937 the International Joint Commission made a study of this proposal and found that the annual carrying charges for a 27-foot waterway would amount to more than four times the amount saved in transportation costs by the users. At that time they estimated the capital cost for the project at $342 million. With today's prices, I am certain that the cost would be at least triple that amount.

Condello: Let me add that the Commerce and Industry Association of New York has reported that estimates by some engineers put a price tag of one billion dollars on the project today. This certainly confirms Mr. Boardman's estimate.

Q. What about tolls?

Boardman: As things stand now, we have no way of knowing whether there would be tolls or not. If we could be certain that tolls adequate to pay all costs would be imposed, we would have little reason for concern. We know that the inherent economic advantages of rail transportation would enable us to meet that kind of competition. However, don't let talk of tolls fool you. We have only to look at the recent history of the St. Lawrence Seaway to see that what is often intended as a self-supporting project never becomes so in reality. The St. Lawrence has operated at a deficit every year since it opened. And now there is a concerted drive by certain waterway users to have the present inadequate tolls abolished altogether.

Q. Isn't the Port of New York Authority in favor of the project?

Condello: Their public state-

VICTOR F. CONDELLO, New York Railroads

Billion-Dollar Ditch' Proposal

ments indicate that they are. More significant, however, is the fact that the largest organization representing business in the New York Metropolitan Area is strongly opposed to the Champlain Waterway. This is the Commerce and Industry Association of New York which has stated that the Champlain canal would "not engender trade for New York, but would probably create only a gateway for seaway traffic."

Q. Mr. Boardman, you appeared at a legislative hearing on this subject a few months ago. What were the principal arguments used by the proponents?

Boardman: There was talk about the waterway making possible greater imports of Canadian iron ore which certainly wouldn't help our own iron mining industry. However, their most ridiculous arguments were that it would "make possible the transformation of all locations along its route into seaports," and that it would "benefit all transportation facilities." Any community along the proposed waterway expecting to be transformed into a seaport should take a good look at what has happened, or rather what has not happened along the deeper Hudson River south of Albany. Not one of these communities between New York City and Albany has become a seaport. Let's face it, to create a seaport you need much more than the availability of deep water. Just look at the number of non-seaport cities along the East Coast. Secondly, to say that the waterway will help the railroads is just plain bunk. It is obvious that any traffic moving over this route by water would have to move some other way if the waterway did not exist. In view of the fact that much of the traffic would be in bulk commodities, the logical loser to this subsidized waterway would be the railroads and their employees.

Q. What would be the principal traffic losses to the railroads?

Condello: We would stand to lose a great deal of tonnage in newsprint, iron ore and aluminum ore (bauxite), plus lesser amounts of other bulk commodities which add up to losses sufficient to force abandonment of some of the rail lines now handling this traffic.

Q. Wouldn't this have severe economic consequences in many communities in the Champlain area?

Condello: It certainly would. In addition to the loss of jobs and tax revenue from the railroads, these communities would be left with only highways and a waterway route which would be closed to traffic one-third of the year. In other words, they would lose their only all-year, all-weather form of transportation.

Q. But isn't there a lot of local pressure from communities in the Champlain Valley for construction of the waterway?

Condello: Not at all. Although a few misguided individuals hope to see their home towns become thriving seaports, I am certain that most residents of the area recognize that the waterway would do them more harm than good. I know that the New York State Congressman from that area has not endorsed the proposal and that the Interstate Commission on the Lake Champlain Basin has likewise refused to endorse it. The Lake George Association has said that it would oppose the project "from the standpoint of pollution alone."

Q. There seems to be some disagreement on the subject of pollution. Aren't there laws or regulations to prevent pollution of inland waterways by ships?

Boardman: Yes there are all kinds of laws and regulations. But you can see from the pollution in the Great Lakes, St. Lawrence and Hudson River that they are hardly enforceable. There is already some pollution of Lake Champlain from the relatively few and small barges and tugs now using it. With large ocean-going ships plying its waters,

FRANCIS F. BOARDMAN, BLF&E

the second largest fresh water lake in the nation, aside from the Great Lakes, would be turned into a virtual cesspool. This would completely ruin for all time the greatest industry potential of the area—recreation.

Q. What other groups and individuals are opposing the project?

Condello: I have already mentioned the Commerce and Industry Association of New York. In addition, there is the Citizens Public Expenditure Survey, a statewide taxpayer organization. I have also seen statements in opposition to the project by the past presidents of the New York State Grange and the State Automobile Dealers Association. I know of other organizations which now have the subject under consideration and I expect that we will see the list of opposing groups and individuals swell in the next few months.

Q. Have any newspapers in your state taken an editorial stand on the proposal?

Boardman: Yes, I've seen editorial opposition from the Syracuse Post-Standard, the Schenectady Union Star, the Jamestown Post Journal and the Yonkers Herald Statesman.

YOU OUGHT TO KNOW

Improved passenger-train service between Washington and Cincinnati will be inaugurated Dec. 8 by the Baltimore & Ohio. The new service, to be provided by a train named "Tri-Stater," will include overnight Pullman connections and lounge cars with food service. The train will leave Washington daily at 10 p.m. It will depart from Cincinnati at 10:15 p.m.

A special meeting of the Southern's stockholders will be held in Richmond, Va., Jan. 15, 1963. Purpose of the meeting is to authorize issuance, subject to ICC approval, of $50 million of general mortgage bonds for one or more of the following purposes: (1) to acquire any or all capital stock of the Central of Georgia (RA, Nov. 19, p. 28); (2) to retire the first mortgage 3¾% bonds of the Atlanta & Charlotte Air Line Railway, due Nov. 1, 1963; (3) to reimburse the treasury for capital expenditures made since Jan. 1, 1959; and (4) to provide funds necessary for future capital expenditures. Southern expects to offer bonds at competitive bidding early next year.

The first program in a new 26-week series of five-minute radio shows telling the story of railroad workers in song and narration and sponsored by the Railway Labor Executives' Association was released Dec. 1 to radio stations throughout the country.

Surplus defense materials, including nine locomotives and three railway cranes originally costing $480,000, will be sold at an auction Dec. 6 in the Hotel New Yorker, New York City. In all, more than 300 items, including lathes, drill presses, tractors, welding machines, clothing, trucks and other equipment, will be sold. Information and catalogs can be obtained from the Defense Surplus Sales Office, Dept. Q., P.O. Box 68, Fort Dix, N. J.

Voter approval of bond issues for rapid transit improvements in San Francisco and Philadelphia has been hailed by Walter J. McCarter, president of the Institute for Rapid Transit, as "conclusive proof of a great desire among urban residents for better mass transportation facilities." Mr. McCarter called it "especially significant . . . that many of the voters who supported the rapid transit proposals by their overwhelming favorable vote . . . also undoubtedly own automobiles. Such support by motorists in favor of rapid transit is significant because it shows how completely wrong some segments of the transportation industry have been in claiming that urban dwellers want only automobiles and more highways."

Nickel Plate plans to discontinue operation of two daily passenger trains between Buffalo, N.Y., and Chicago, effective Jan. 6, 1963. NKP says the two trains—"The Westerner" and "The New Yorker"—are losing more than $1,000 a day. The road will continue to operate the "City of Chicago" and the "City of Cleveland" between Buffalo and Chicago.

Court action is facing the Grand Trunk Western and the New York Central for failing to comply with the ICC's Revised Service Order 939 requiring prompt return of 50-ft box cars and those having wide door openings. The GTW is charged with nine counts and the NYC seven, with penalties of $500 for each offense. The ICC crackdown is aimed at easing the shortage of these special type cars.

REA Express opened five new key-point terminals in Pennsylvania last week to provide service for a 3,000-square-mile area in the southeastern part of the state. The five new terminals will serve more than a million persons in 172 communities.

In the event of nuclear war or other national emergency, some 200 vital railroad terminals in this country would be placed under the control of officers of the National Defense Executive Reserve, ICC Chairman Rupert L. Murphy told the 74th annual convention of the National Association of Railroad and Utilities Commissioners in New Orleans. He explained that certain operation executives now employed at each of the terminals involved have been appointed local reservists to meet emergency situations. He said the Commission has issued a series of Transport Mobilization Orders which would be automatically effective upon the proclamation of a state of civil defense emergency by the President or by concurrent resolution of Congress. Reserve executives, he said, have been undergoing training to orient them to their emergency responsibilities.

Profit of 10 cents a share is reported by the Chicago South Shore & South Bend for the first 10 months of this year. In the same period last year, the railroad had a loss of 11 cents per share.

The 17th Annual Railroad Management Institute, scheduled for Jan. 7-18, in Washington, D. C., has picked for its theme "The Path to New Traffic and Higher Profits." The session, designed for junior management personnel, will include lectures, discussions, case studies of management problems, and enrollee work-group reports. The program is presented by the School of Business Administration of the American University.

The Telstar satellite has been used by the Missouri Pacific to "bounce" the consist of a freight train from St. Louis, Mo., to Dallas, Tex. In a demonstration by Southwestern Bell Telephone, the train message went to the satellite ground station at Andover, Me., and then to Telstar where the signal was amplified 10 billion times before being routed to Dallas over the long-distance network. At the time of transmission Telstar was 3,000 miles above the earth, traveling at 16,000 miles per hour.

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Linde Company, Division of Union Carbide Corporation .. IBC
Miner, Inc., W.H. 8
Morgan Stanley & Company 28
North American Car Corporation 24-25
Railway Maintenance Corporation .....IFC
Shelton Towers 28
Sherman House 29
Stanray Corporation 3
U. S. Borax & Chemical Corporation 4
United States Steel Corporation 22-23

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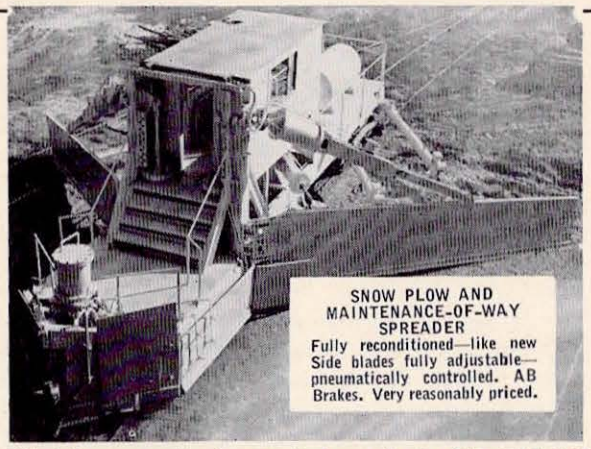

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Time to Get Cost-Wise

It used to be that railroads did all the transportation work that came their way—which usually was a large and dependably growing volume—without considering the cost or the profitability of each operation. Resourceful operating officers held down all costs as skillfully as they could. Resourceful rate officers "charged what they could" for each service. As long as there was a substantial black figure at the bottom of the income account (and there usually was), everybody was happy.

Those days are gone. Railroads now need to look at each movement with a profit-conscious eye. And they cannot know what the profit of a movement is unless they know what the cost is. If they are insufficiently alert—charging too little to earn a clear profit, or charging more than a competitor does when their costs would permit them to compete—then they may well wind up the year short of tonnage or net earnings, or both.

Of all the problems, then, that confront railway managements in this critical period of transition, none is more widespread in its impact on all departments than the need to improve the quality and quantity of railroad cost information; and the securing of wider and deeper understanding of its significance by all railroad people.

It is the acceptance by regulatory authorities of questionable cost figures, in litigation over competitive rates, that often deprives railroads of the right to compete for lucrative traffic.

The only effective means of imparting adequate comprehension by regulatory and judicial authorities of the nature of costs in the transportation industry is for railroad people, themselves, to acquire this knowledge and to inject it into their presentations to regulatory and judicial tribunals.

Necessary emphasis by railroads, in competitive rate-making, on their right to go down to the level of incremental (or "out-of-pocket") costs, appears to have been interpreted in some quarters to mean that such small-profit (or no-profit) rate-making is an acceptable practice for general application. Such a conclusion is obviously in error.

The ICC's cost-finding section deserves the gratitude of the railroads for its pioneering in the development of methods for railroad cost-finding (e.g., the so-called "Form A" approach). At the same time, it should be more widely understood that the Form A approach yields average figures only—which inevitably will fall wide of the mark in providing reliable costs for specific movements.

The current exploratory work authorized by the AAR in developing methods for obtaining more accurate cost information could not be more timely—and the more intensively this effort is pursued, the better. Railroads cannot wait indefinitely to acquire and start applying the best available knowledge in this area. It's like our government in keeping up with developments in nuclear fission. It's a choice between being really up-to-date or, maybe, not being at all.

The skilfull application of cost information to effective rate-making has made great progress in recent years. Nevertheless, there is still a great deal of ground not yet covered. Far too many rate progressions (following the grossly uneconomic "shape" of the class rates) are too high, and some of them are lower than costs or competition can justify for longer distances. Far too many rates still remain in effect, with minima which represent only a partially loaded car (largely ignoring the low costs of the fully loaded car).

The foregoing observations are not intended critically. When the competitive environment railroads live in changed as rapidly as it did, there's no wonder that ways of doing business, developed by a century of experience under utterly different conditions, could not be changed quite fast enough. Especially since so many railroad practices have been petrified by regulation—thus increasing manyfold the difficulty and time consumed in adaptation.

All Railroaders Need Cost Knowledge

Intensive effort toward improved knowledge of railroad costs is now going forward at the top management level of the industry. What is needed is an equally large-scale effort to induce all levels of management and supervisory people to see all their work in terms of costs.

Several months ago the publishers of this paper made what we believe to be a major contribution toward this objective by bringing out E. C. Poole's book "Costs—A Tool for Railroad Management." There are thousands of railroad officers and supervisors who could acquire information from this book that would be helpful in their work—even if not all of it were applicable. Now, further published information in this area has become available in Vol. III of the report of Canada's Royal Commission on Transportation, which contains informative contributions on railroad cost finding by R. L. Banks and D. H. Hay.

Railroads are going to continue falling short of their need for increased tonnage and net revenue until they can contrive ways of inducing all supervisory people to quit seeing traffic in terms of carloads and tons—and to visualize it, instead, as units of revenue and related expense.

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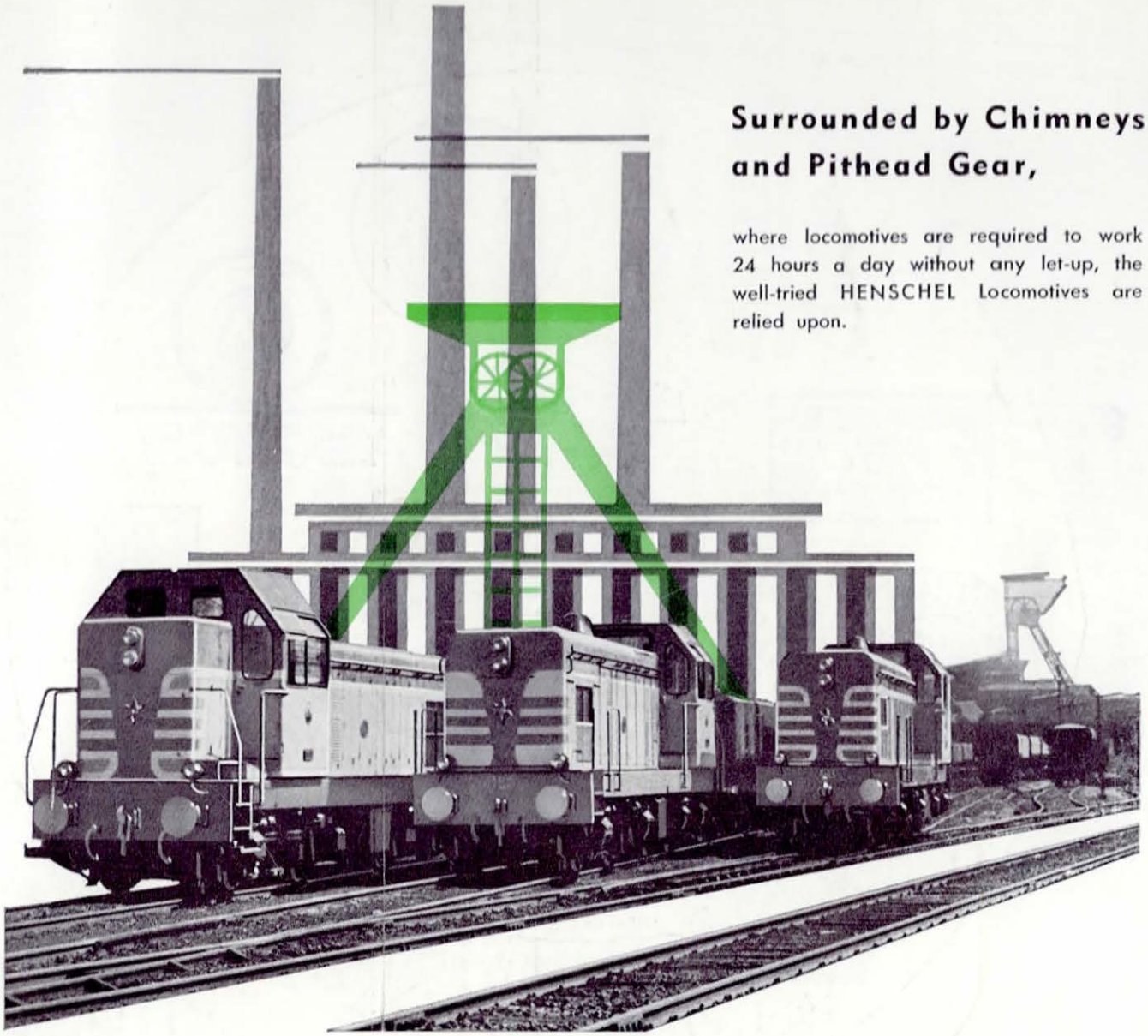

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